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**BLM**

**United States Department of the Interior  
Bureau of Land Management**

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**Environmental Assessment  
for  
Public Comment**

**DOI-BLM-CO-S050-2023-0015-EA**

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**February 2023**

**Jumbo Mountain Special Recreation Management Area  
Comprehensive Travel and Transportation  
Management Plan**

*Location:* Delta County

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## 1 – INTRODUCTION

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### 1.1 Identifying Information

NUMBER: DOI-BLM-CO-S050-2023-0012 EA

PROJECT NAME: Jumbo Mountain Special Recreation Management Area Comprehensive Travel and Transportation Management Plan

PLANNING UNIT: Uncompahgre Field Office, Jumbo Mountain Special Recreation Management Area

LEGAL DESCRIPTION: T. 13 S. R. 91 W., Sections 28, 32, 33, 34; T. 14 S. R. 91 W., Sections 3 and 4

### 1.2 Background

The Uncompahgre Field Office (UFO) is completing Comprehensive Travel and Transportation Management Planning (CTTMP) for the Jumbo Mountain Special Recreation Management Area (SRMA) within the UFO planning area. The project area consists of about 1,900 acres of BLM-managed lands within Delta County, Colorado (Appendix A, Map 1). The project area boundary was changed from the original boundary presented during public pre-scoping to encompass a small number of trails outside of the SRMA, but only accessible from within the SRMA. This does not change the boundary of the SRMA.

CTTMP within the planning area is occurring on BLM-managed lands immediately adjacent to the town of Paonia, CO. Resource uses in Jumbo Mountain SRMA include recreation, livestock grazing, and public use rights-of-way.

#### *Comprehensive Travel and Transportation Management Planning*

CTTMP is the proactive management of public access and travel on public lands managed by the BLM to protect and preserve natural and cultural resources in compliance with travel-related regulations and in accordance with public land use management principles. It involves a comprehensive approach to road and trail system planning and management; road and trail design; recreational and non-recreational uses of roads and trails; and natural resource management. Within this context, access to and within public lands is evaluated according to the effects of motorized and non-motorized travel on public lands, including natural and cultural resources and the people who use them. Transportation and access planning is also the process where existing routes undergo review for designation, with associated BLM management of the route network.

CTTMP ensures public access to BLM-managed lands while serving local communities. CTTMP is balanced with the need to manage the health of public lands for multiple uses and sustained yields of natural resources. A number of factors have influenced the BLM approach to travel planning, including increasing population throughout the western United States, a shift in demographics (e.g. age and mobility, amount of available leisure time, proximity of population centers to public lands, etc.), and technological advances in motorized and mechanized transportation (e.g. size, power, stability, and ease of control).

In addition to recreational travel, this CTTMP effort also considers permitted non-recreational travel and administrative use, such as use by permittees, lessees, and/or BLM or other government staff performing agency work.

### ***Electric bicycles (e-bikes)***

E-bikes look a lot like traditional bikes. They have the same type of wheels, pedals, handlebars, and geometry as traditional mechanical bikes. They have the addition of a battery-powered “assist” that is activated by pedaling, or in some cases a throttle. The only difference in appearance is the addition of the electrical drive system (i.e., electric motor, battery, throttle, display screen or controller).

There are three classes of e-bikes.

- Class 1 e-bike - Equipped with a motor that provides assistance only when the rider is pedaling and ceases to provide assistance when the bicycle reaches a speed of 20 miles per hour.
- Class 2 e-bike - Equipped with a motor that provides assistance regardless of whether the rider is pedaling but ceases to provide assistance when the bicycle reaches a speed of 20 miles per hour. Typically operated with a grip-twist or button throttle-assisted system.
- Class 3 e-bike - Equipped with a motor that provides assistance only when the rider is pedaling and that ceases to provide assistance when the bicycle reaches a speed of 28 miles per hour.

All classes limit the motor’s power to one horsepower (750 watts).

### **Policy:**

Federal regulation of e-bikes is the responsibility of the Consumer Product Safety Commission (CPSC). Public Law 107–319, 116 Stat. 2776 (the Act), enacted December 4, 2002, subjects lowspeed electric bicycles to the Commission’s existing regulations at 16 CFR (Code of Federal Regulations) part 1512 and 16 CFR 1500.18(a)(12) for bicycles that are solely human powered. For purposes of this requirement, the Act defines a low-speed electric bicycle as “a two-or three wheeled vehicle with fully operable pedals and an electric motor of less than 750 watts (1 horsepower) whose maximum speed on a paved level surface, when powered solely by such a motor while ridden by an operator who weighs 170 pounds, is less than 20 [miles per hour] mph.” The final rule was published in the Federal Register, Vol. 68, No. 29, Wednesday, February 12, 2003 - Rules and Regulations. CPSC regulation of e-bikes does not include their usage.

Colorado House Bill 17-1151 allows Class 1 and Class 2 e-bikes on paths where bikes are allowed to travel and gives local jurisdictions the ability to prohibit e-bikes.

In 2019 and 2020, the Department of the Interior and the BLM issued new guidance regarding the management of e-bikes on BLM-administered public lands. This guidance can be found on BLM’s national e-bike webpage, <https://www.blm.gov/programs/recreation/ebikes>. On August 29, 2019, Secretary of the Interior David Bernhardt issued Secretary's Order (SO) 3376 for the purpose of increasing recreational opportunities through the use of Electric Bikes (e-bikes). The SO directed the BLM and other agencies (National Park Service, United States Fish and Wildlife Service, and Bureau of Reclamation) to expand access on public lands to e-bikes and begin the longer-term process of amending existing regulations to address e-bikes. The SO specifically directed the BLM to revise its off-road vehicle or off-highway vehicle (OHV) regulations at 43 CFR part 8340.

A proposed rule to revise the BLM’s OHV regulations at 43 CFR part 8340 was published in the Federal Register on April 10, 2020 (85 FR 20229). By the close of the public comment period on June 9, 2020, nearly 24,000 public comments were received on the proposed rule. Issues raised by substantive comments resulted in the BLM updating some language in the final rule, which was published in the Federal Register on November 2, 2020, and became effective on December 2, 2020. The Final BLM E-bike Rule is in line with the Secretary's

Order. While the BLM intends for the rule to increase accessibility to public lands, e-bikes would not be given special access beyond what traditional, non-motorized bicycles are allowed. The rule amends 43 CFR 8340.0-5 to define e-bikes, which are limited to Class 1, 2, and 3 e-bikes as defined above.

The rule provides that authorized officers may authorize, through subsequent land-use planning or implementation-level decisions, the use of Class 1, 2, and 3 e-bikes on non-motorized roads and trails. The rule provides managers the ability to exclude e-bikes that meet certain criteria from the definition of off-road vehicle (otherwise known as an OHV) at 43 CFR 8340.0-5(a). The rule, however, does not result in any immediate on-the-ground changes or site-specific allowances for e-bike usage on BLM-administered public lands. In other words, the rule does not, by itself, open any non-motorized trails to e-bike use. Before any on-the-ground changes can occur, an authorized officer must issue a land use planning or implementation-level decision that complies with NEPA and other applicable legal requirements.”

Specifically, 43 CFR 8342.2 now includes the following subparts regarding designation procedures for e-bike use: (d) E-bikes

- (1) Authorized officers may allow, as part of a land-use planning or implementation-level decision, e-bikes, or certain classes of e-bikes, whose motorized features are not being used exclusively to propel the e-bike for an extended period of time on roads and trails upon which mechanized, nonmotorized use is allowed; and
- (2) If the authorized officer allows e-bikes in accordance with this paragraph (d), an e-bike user shall be afforded all the rights and privileges, and be subject to all of the duties, of a user of a non-motorized bicycle.

As an alternative to using this new “e-bike exception” to authorize e-bike use in areas with a “Limited” OHV area designation (as is the case with Jumbo Mountain), the BLM may define e-bikes as OHVs and use the designation procedures described in 43 CFR 8342.2 to authorize e-bike use.

In this EA, the UFO is engaging in the required NEPA planning process to analyze the effects of authorizing (Alternative D) or prohibiting (Alternatives B and C) e-bike use on the trails within the Jumbo Mountain SRMA.

This document is tiered to, and incorporates by reference, the 2020 UFO Resource Management Plan (RMP).

### **1.3 Purpose and Need for Proposed Action**

The purpose of this Comprehensive Travel and Transportation Management Plan is to:

- Establish a long-term, sustainable, multimodal transportation system for public, commercial, and administrative access to and across BLM-managed lands.
- Support the agency’s mission and planning goals, including resource management.
- Manage transportation on BLM-managed lands in accordance with laws, regulations, and policies.
- Work collaboratively with federal land management agencies, state and local agencies, gateway communities, and special interest groups to plan for connected transportation systems.
- Support the Department of the Interior Strategic Plan Mission Area 3 to expand outdoor recreation and access (DOI 2018a).

The BLM needs to designate routes to better manage travel and reduce impacts to vegetation, sensitive wildlife species and their habitat, soils, air and water quality, and cultural and visual resources. Travel planning also

provides an opportunity to increase access to, and improve recreation user experience on, public lands (43 CFR 8342). The 2020 UFO RMP provides interim travel management guidance. It identified the North Fork Travel Management Area, which encompasses Jumbo Mountain SRMA planning area, as priority for travel management planning.

## **1.4 Decision to be Made**

Based on the analysis contained in this Environmental Assessment (EA), the BLM will decide to either approve or deny the proposed action or one of the alternatives. Under the National Environmental Policy Act (NEPA), the BLM must determine if there are any significant environmental impacts associated with the proposed action warranting further analysis in an Environmental Impact Statement (EIS). The Field Manager is the responsible officer who will decide to approve the proposed action or one of the alternatives, or any combination thereof (such as big game timing limitations, route network, e-bikes, reroutes, future miles, etc), with relevant and applicable design features as submitted, including the proposed Transportation and Travel Management Plan [Appendix B – Transportation and Access Plan (Implementation Guidance)].

## **1.5 Land Use Plan Conformance Review**

The proposed action is subject to and has been reviewed by the UFO interdisciplinary team for conformance with the Uncompahgre Field Office Management Plan signed April 2020, in compliance with 43 CFR 1610.5. See Appendix C for a complete RMP conformance review.

# **2 – ISSUES**

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The BLM uses a scoping process to identify potential significant issues in preparation for impact analysis. The principal goals of scoping are to identify issues, concerns, and potential impacts requiring detailed analysis. Scoping is both an internal and external process. Internal BLM scoping was initiated when the project was presented to the UFO Interdisciplinary Team (IDT) on May 17, 2021. The preliminary determination of issues from this workshop is presented in Appendix D Issue Identification Worksheet.

## **2.1 External Scoping**

External pre-scoping was conducted by posting this project on the BLM's ePlanning register on June 14, 2021, at <https://eplanning.blm.gov/eplanning-ui/project/2014104/510>. The UFO conducted a 60-day public pre-scoping comment period from June 14, 2021-August 13, 2021. During the 60-day period the UFO hosted two open house meetings at the Paonia Community Center on Wednesday, July 14, 2021, and Thursday, July 15, 2021, from 4 to 7 pm. A total of 76 members from the community attended these meetings.

The BLM coordinated with state and local governments such as Colorado Parks and Wildlife (CPW), Delta County, and the Town of Paonia. Tribal consultation was conducted with the Southern Ute Indian Tribe, the Ute Indian Tribe of the Uintah and Ouray Reservation, and the Ute Mountain Ute Tribe. Input was sought from user groups such as grazing permittees, right-of-way holders, and Special Recreation Permit (SRP) holders. Trails-based user groups such as North Fork Trails Alliance, Delta Area Mountain Bikers, and Colorado Plateau Mountain Bikers Association were also invited to participate in the process to identify issues that need to be



disclosed and analyzed in this EA. Issues identified from scoping were incorporated into issue analysis or eliminated from detailed analysis (section 2.3).

In pre-scoping in summer 2021, the public was invited to review BLM's inventory data and provide feedback to verify and add context to that data. **Table 1, Table 2, and Table 3** below summarize the comments received during pre-scoping.

Table 1: Scoping Submissions by Type

Method	Number
ePlanning	82
Hard Copy	21

Table 2: Scoping Submissions by Organization

Organization Name	Number of Comments
Individuals	76
SK Bikes	14
North Fork Trail Alliance	3
Hawks Haven HOA	2
The Nature Connection DCSD	2
Delta Area Mountain Bikers	2
Dark Skies Paonia	1
Backcountry Hunters and Anglers	1
Colorado Parks and Wildlife	1
Western Slope Conservation Center	1

Table 3: Scoping Submissions by Topic

Comment Theme	Number of Comments
Route Specific Comment	46
Trail Maintenance	29
Trailhead Access/Improvements	28
Non-Motorized Trails	26

Comment Theme	Number of Comments
E-Bikes	25
Signage	23
Trails Remain Open	22
Soils/Erosion	21
Motorized Trails	19
Seasonal Closures	19
New Trails	18
Dogs	18
Hunting	15
Reduce Trail Density	14
Private Property	7
Vegetation Restoration	5
Grazing	4
Camping	3
Recreational Commercial Use	2
Youth	2
Oil and Gas	2
Dark Skies	1
Paleontology	1

The EA was posted to BLM’s ePlanning webpage at <https://eplanning.blm.gov/eplanning-ui/project/2022951/510 on XX>, 2023. On February 10, 2023, the EA was posted for a 60-day public review and comment period. BLM will respond to substantive comments received prior to signing a Finding of No Significant Impact (FONSI), if appropriate, and issuing a Decision.

## 2.2 Issues Identified for Detailed Analysis

The CEQ Regulations state that EAs should “briefly provide sufficient evidence and analysis” for determining whether to prepare an EIS or a FONSI (40 CFR 1501.5) and that agencies should only briefly discuss issues other than significant ones (40 CFR 1500.4(e)). While many issues may arise during scoping, not all of the issues raised warrant analysis in an EA. Issues will be analyzed if: 1) an analysis of the issue is necessary to

make a reasoned choice between alternatives, or 2) if the issue is associated with a significant impact, or where analysis is necessary to determine the significance of the impact. Appendix D Issue Identification Worksheet shows the resources considered and the determination as to whether they require additional analysis. Issues identified for detailed analysis are shown in **Table 4**.

Table 4: Issues Identified for Detailed Analysis

Issue	Issue Statement	Indicator
Issue 1	How much sediment would be generated by maintenance of existing trails and construction of new trails?	Tons of sediment
Issue 2	How would the Proposed Action and alternatives contribute to the establishment and spread of noxious weeds and invasive species?	Acres of disturbance
Issue 3	How would trail construction, use, and maintenance, as well as route closure and changes in route designations impact the BLM sensitive Colorado Desert-parsley ( <i>Lomatium concinnum</i> ) and upland vegetation?	Acres of disturbance & miles of routes
Issue 4	How would the Pinyon Jay colony and other migratory birds present in the area be impacted by the proposed action?	Acres of disturbance
Issue 5	How would big game crucial winter habitat, and wintering big game be impacted by the proposed action?	Acres of habitat
Issue 6	How would mobilization of salt and selenium would be impacted by trail maintenance and construction?	Ton of salt and selenium
Issue 7	How would the designation and modification of the existing trail system affect transportation?	Miles of Routes Open
Issue 8	How would the designation and modification of the existing trail system affect recreation setting characteristics and recreation opportunities (activities, experiences, outcomes) in the Jumbo Mountain SRMA?	Changes to physical, social, and operational recreation setting characteristics

## 2.3 Issues Eliminated from Detailed Analysis

Some resources are present in the project area but no specific concerns or issues regarding impacts from the proposed action or alternatives were raised; these resources will not be discussed further in this EA. See Appendix D Issue Identification Worksheet (Coded NP, Not Present).

Some resources are present in the project area, and preliminary analysis of the proposed action and alternatives raised specific concerns or issues regarding potential impacts to these resources. Detailed analysis of these potential issues was eliminated through project design features described in **3.3.2 Design Features Common to All Action Alternatives**. In addition, it was determined that some issues could be incorporated into the analysis of another closely related issue. Those issues, and the rationale for eliminating them from further discussion in this EA, are presented below. Supporting documentation for these statements is included in the project record.

### ***2.3.1 Eliminated Issue 1***

How much dust and criteria air pollutants would be generated during construction or special events?

Proximity to the Raggeds Wilderness Class I airshed is approximately 18 miles. Any particulates and other criteria pollutants generated during trail construction or events would be short in duration and quickly dissipate before reaching the Wilderness area.

### ***2.3.2 Eliminated Issue 2***

How would removal of vegetation impact CO<sub>2</sub> emissions and climate change?

Removal of existing vegetation is too small to meaningfully calculate the loss of plant use of CO<sub>2</sub>.

### ***2.3.3 Eliminated Issue 3***

How would the designation of existing trails, reroutes, and future conceptual trails impact cultural resources?

The proposed project has been inventoried at the Class II level (18UN-21; DT.LM.R84), resulting in cultural resources that are not eligible for the National Register of Historic Places (NRHP). A letter with a finding of “No Historic Properties Affected” was sent to the Colorado SHPO on 3/1/2022. SHPO did not provide any objections to the findings. Design features mitigate impacts to cultural resources. Letters to the Tribes will be sent in February 2023 (concurrent with the public comment period).

### ***2.3.4 Eliminated Issue 4***

How would the designation of existing trails, reroutes, and future conceptual trails impact Native American Religious Concerns?

Tribal consultation letters were sent to the Southern Ute Indian Tribe, Ute Mountain Ute Tribe, and the Ute Indian Tribe of the Uintah and Ouray Reservation on April 28, 2022. No specific issues have been identified related to Native American Religious Concerns. There are ongoing conversations with Southern Ute Indian Tribe regarding survey materials.

### ***2.3.5 Eliminated Issue 5***

How would riparian areas be affected by trail maintenance and trail building?

Design feature 7(a) specifies riparian area and stream crossings would be kept to a minimum to reduce impacts. Water quality impacts are assessed in the Surface Water section.

### ***2.3.6 Eliminated Issue 6***

How would floodplains be affected by trail maintenance and trail building?

Design feature 6(c) prevents soils from trail construction from being deposited in drainages. Design feature 7(b) specifies that bridges spanning drainages would be built above the extent of riparian vegetation.

### ***2.3.7 Eliminated Issue 7***

How would public lands access be affected by the designation of the trail system?

Access to the Jumbo Mountain SRMA is through an easement with the Town of Paonia, through the Hawks Haven HOA. The designation and modifications to the trail system do not change the current access. See Transportation for how the proposed action would impact access within the planning area.

### ***2.3.8 Eliminated Issue 8***

How would evidence of the Public Land Survey System (PLSS) be impacted by the designation and modification of the trail system?

Design features 1(a) and 1(b) prevent impacts to evidence of the PLSS.

### ***2.3.9 Eliminated Issue 9***

How would existing ROWs be impacted by travel designations?

Design feature 14(a) addresses impacts to realty authorizations.

### ***2.3.10 Eliminated Issue 10***

How would an increase in use in the SRMA and travel designations impact current livestock grazing authorization?

Design features 8(a) – 8(d) address potential impacts to livestock grazing.

### ***2.3.11 Eliminated Issue 11***

How would new trail construction impact hazardous fuels loading? How would trail system expansion impact the levels of human-caused fire ignitions in the area?

Design feature 15(a) addresses impacts to fuel loading. Design feature 15(b) addresses human-caused fire concerns.

### ***2.3.12 Eliminated Issue 12***

How would the designation of existing trails, reroutes, and future conceptual trails impact hunting access?

Hunting access would not be impacted by the designation of the trail system. The SRMA remains open to hunting. The seasonal wildlife limitations would provide better protections for big game which could lead to improved hunting opportunities.

### ***2.3.13 Eliminated Issue 13***

How would the designation and modification of the existing Jumbo Mountain trail system impact paleontological resources?

Design features 11(a) and 11(b) address impacts to paleontological resources.

### 3 – PROPOSED ACTION AND ALTERNATIVES

Four alternatives are presented in this EA: the No Action alternative (A), the Resource Protection alternative (B), the Maximum Access alternative (C), and the Proposed Action alternative (D). The action alternatives were developed with careful consideration of administrative actions, goals, and objectives during the route designation process. The alternatives were also developed and refined throughout the evaluation process with input from BLM staff, management, the public, and partners through the scoping process. Regulation 43 CFR 8342.1 states that all route designations shall be based on the protection of the resources of the public lands, the promotion of the safety of all users of public lands, the minimization of conflicts among various uses of public lands, and in accordance with the criteria outlined in the TMP. During the route evaluation process, each route segment was designated as OHV open, limited, or closed based on 43 CFR 8342.1 and the specific evaluation criteria developed by the BLM IDT and outlined in Appendix I of the 2020 UFO RMP. Alternatives considered in detail are described below, followed by alternatives considered but not analyzed in detail. The affected environment and environmental consequences described in Chapter 4 are based on this detailed description of alternatives.

#### 3.1 Comparison of Alternatives

**Table 5** below shows the substantive differences between the alternatives analyzed in this EA, including total miles of route network designated, percentages of route network designated, and seasonal travel limitations applicable under different alternatives in different Recreation Management Zones (RMZ). See Appendix A Maps 3 – 6 for seasonal travel-restricted areas under each alternative.

Table 5: Alternatives Comparison

Designation	Alt A No Action		Alt B Resource Protection		Alt C Maximum Access		Alt D Proposed Action	
	Miles	% of Route Network	Miles	% of Route Network	Miles	% of Route Network	Miles	% of Route Network
OHV Open	31.8	100%	0	0%	4.3	14%	0	0%
Limited to Administrative OHV, Open to public non-motorized	0	0%	2.2	7%	0.1	.3%	4.4	14%
Limited to Non-Motorized (Mechanized, Pedestrian, Equestrian)	0	0%	12.5	39%	23.1	72%	20.0*	52%
Closed	0	0%	17.1	54%	4.3	14%	7.4	24%
<b>Totals</b>	<b>31.8</b>	<b>100%</b>	<b>31.8</b>	<b>100%</b>	<b>31.8</b>	<b>100%</b>	<b>31.8</b>	<b>100%</b>

Designation	Alt A No Action		Alt B Resource Protection		Alt C Maximum Access		Alt D Proposed Action	
	Miles	% of Route Network	Miles	% of Route Network	Miles	% of Route Network	Miles	% of Route Network
<b>Raptor Nest Travel Limitation</b>	None		Routes within 0.5 miles of raptor nest are closed to all travel		If nest occupied, relevant routes would be closed to all uses from December 15 – July 15		If nest occupied, relevant routes would be closed to all uses from December 15 – July 15	
<b>Big Game Winter Seasonal Travel Limitation</b>	RMZ 2 Trails are closed to Motorized and Mechanized Use from December 1 – Apr 15 per the 2020 UFO RMP		RMZ 2 Trails are closed to All Uses (motorized, mechanized, horse, and pedestrian) from December 1 – Apr 15		RMZ 2 Trails are closed to Motorized and Mechanized Use from December 1 – Apr 15 per the 2020 UFO RMP		RMZ 2 Trails are closed to Motorized and Mechanized Use from December 1 – Apr 15 per the 2020 UFO RMP	
<b>e-bikes</b>			Not open to e-bikes		Not open to e-bikes		*Miles open to non-motorized would be open to e-bikes in this alternative.	

## 3.2 Alternative A - No Action

### 3.2.1 Route Designations

Under the No Action alternative, the BLM would not designate or reroute the existing travel network, nor any additional routes. The travel and transportation network would remain according to the designations shown in the 2020 UFO RMP, Appendix I, Figure I-1. Alternative A would not transition management from a “limited to existing routes and route widths” system to a “limited to designated routes” system, as identified in the 2020 UFO RMP. **Table 6** shows miles and seasonal travel limitations under Alternative A (See Appendix A Maps 2 and 3.) There would be no change in authorized uses on routes. There would be no additional designation of existing routes. The seasonal travel limitation for motorized and mechanized uses in RMZ 2 for protection of big game winter habitat would remain in place as prescribed by the 2020 UFO RMP. The BLM would continue to implement this winter travel restriction through public maps, trail signs, and other community outreach as described in Section 3.3.1 Adaptive Management Common to All Action Alternatives.

Table 6: Miles Open and Seasonal Travel Limitations Under Alternative A

OHV Open	Limited to Administrative OHV, Open to Public Non-motorized	Limited to Non-Motorized (Mechanized, Pedestrian, Equestrian)	Closed	Totals	Big Game Winter Seasonal Travel Limitation	Raptor Nest Travel Limitation
31.8	0	0	0	31.8	RMZ 2 Trails are closed to Motorized and Mechanized Use from December 1 – April 15 per the 2020 UFO RMP	None

### 3.3 Management Common to All Action Alternatives

#### 3.3.1 Adaptive Management Common to All Action Alternatives

The BLM is proposing the following management for the Maximum Resource Protection Alternative (Alternative B), the Maximum Access Alternative (Alternative C), and the Proposed Action (Alternative D). The BLM may complete subsequent environmental review under NEPA before implementing some of the proposed adaptive management actions.

The BLM would manage the desired recreation setting characteristics as described in the UFO RMP to support the Jumbo Mountain SRMA outcome objectives. If BLM monitoring indicates the SRMA outcomes are not being achieved, management would be incrementally adapted to facilitate achievement of SRMA outcomes. For example, the BLM would begin with visitor education, then, if necessary, progress to more intensive measures like use and timing limitations (e.g., different uses on different trails on different days, designating directional travel on system trails, etc.), issuance of permits, law enforcement patrols, etc). BLM would only implement adaptive management measures if: 1) they are consistent with SRMA and other RMP objectives and 2) sufficient funding and long-term management commitments are secured from internal BLM sources and/or external managing partners.

Monitoring for the categories and indicators described below would be conducted primarily by BLM staff, partner agencies and volunteers. It would also include information reported by visitors to the Jumbo Mountain SRMA. In addition to onsite monitoring, the BLM may remotely obtain GPS tracking data using tools like online fitness tracking applications (e.g., Strava) to see when and where recreation activities are taking place.

#### 1. Visitor Experience

##### a. If BLM monitoring indicates:

- i. That recreation management outcomes and experiences specified in the UFO RMP for the Jumbo Mountain SRMA (see below) are not being achieved,
- ii. Then the BLM may implement adaptive management identified below to restore achievement of management goals and objectives.
  1. Education and outreach - trailhead signage, websites and social media, on-the-ground patrols.

#### 2. Wildlife

##### a. If BLM monitoring indicates:

- i. Cyclists (under Alternatives C and D) or hikers, equestrians and cyclists (under Alternative B) are violating the seasonal closure:



1. Then the BLM may implement a progressive response using the actions identified below to protect wildlife winter habitat. If winter closure protections are not met using the first mitigation measure, proceed to the next measure identified in the list below (i.e., a then b)
  - a. Place additional educational and informational signs explaining the purpose for winter closure and compliance requirements; and
  - b. Enhance the closure barriers to further restrict access and make enforcement easier. [No supplementary rule would be published as a result of this EA. Law enforcement officers would utilize existing laws and regulations (e.g., 43 CFR 8364.1(d) “Fail to comply with a closure or restriction order”) to enforce violations of the seasonal closure].
3. Soil Impacts
  - a. If BLM monitoring indicates:
    - i. That increased erosion is occurring on remote trails and BLM is not able to complete the maintenance necessary to address trail damage,
      1. Then the BLM may implement a progressive response using the actions identified below to reduce erosion and sedimentation. If erosion protections are not met using the first mitigation measure, proceed to the next measure identified in the list below (i.e., a then b)
        - a. Modify segments of the routes (e.g., new grade reversals or rolling grade dips) within the trail corridor. This would include increasing drainage feature spacing to 30 to 40 feet in problem areas, or less than 25 feet in location within 300 feet of drainages.
        - b. Re-routing segments of trails within the trail corridor analysis area (30-meter corridor - 15 meters either side of center line) where soil impacts are occurring.
        - c. Construct erosion control basins to capture and hold sediment.
4. Sensitive Species Plants
  - a. For routes within or proposed through sensitive species habitat the BLM would move through the following progressive steps as identified in the list below (i.e., i then ii):
    - i. Existing routes or proposed routes that will or have impacted plant populations will be re-routed to avoid populations.
    - ii. If populations cannot be avoided due to terrain limitations, re-routing will be done to avoid bisecting populations or to minimize the linear distance of routes within populations and built to maximize sustainability of the route to limit route widening, off route travel, or abandonment.
    - iii. If routes cannot be re-routed as described above, then new routes would not be approved, existing routes would employ the full range of adaptive management described in the soil impacts section to maintain the trail in the existing footprint and to limit trail widening, off route travel, or abandonment
      1. Trail drainage features shall be placed in areas where plant density is lower relative to the overall population density,
      2. More drain features than prescribed above may be necessary to limit erosion and sedimentation adjacent to the trail to protect plants and habitat

3. Hardened barriers may be placed to maintain trail width and limit off route use where BLM sensitive plants are present.
  4. If routes cannot be maintained to the standard described, then they will be closed and reclaimed.
  - iv. All closed routes within BLM sensitive plant habitat will be actively reclaimed and revegetated to minimize erosion and offer best opportunity for sensitive species reestablishment.
5. Raptor Limitation:
- a. If BLM monitoring indicates:
    - i. That the Golden Eagle nest is unattended or remains unoccupied by May 15, an exception may be granted to the timing limitation dates by the BLM UFO Field Office Manager, consistent with policies derived from federal administration of the Migratory Bird Treaty Act.
    - ii. A modification may be granted if the nest has remained unoccupied for a minimum of five years or conditions have changed such that there is no reasonable likelihood of site occupation over a minimum 10-year period.

### ***3.3.2 Design Features Common to All Action Alternatives***

Consistent with the management objectives for the Jumbo Mountain SRMA, the BLM and its partners have designed the proposed trail system primarily for mountain biking activities using best management practices described in the International Mountain Bicycling Association's (IMBA) "Trail Solutions" (IMBA 2004), "Managing Mountain Biking: IMBA's Guide to Providing Great Riding" (IMBA 2017), and "Guidelines for a Quality Trail Experience" (BLM/IMBA 2017). These best management practices (BMPs) include curvilinear design principles that utilize the contours of the natural topography, as well as frequent tread grade reversals, constructed bermed turns and jumps, and a combination of insloped and outsloped tread that are all part of modern "bike-optimized" trail design and construction. Tread grades would generally be less than 15 percent, but grades may be steeper where durable surfaces, like large rocks with down gradient armoring or purpose-built trail features (e.g., berms and jumps), can be incorporated into the trail design.

In addition to providing high quality mountain biking opportunities, these design features are intended to reduce soil erosion and sedimentation which can impact downstream water quality. In addition to constructing outsloped tread wherever possible, trail design would incorporate tread grade reversals or drainage features approximately every 50 to 100 feet, or approximately every 30 to 40 feet within 100 feet of natural drainages or where the tread grade exceeds 15 percent.

Several of the trails would be designed and managed for one-way directional travel to optimize trail-user experiences and reduce trail widening due to riders passing one another in opposite directions. Unlike designations, recommendations are not enforceable, but are guidelines to achieve user experience objectives, and promote visitor safety and resource protection. Design features that promote one-way directional travel include:

#### Uphill

- Gradual tread grades – generally less than 7 percent

- Constructed along the contours of hillsides with relatively steep cross slopes. This helps keep the tread width narrow and discourages two-way traffic since passing at high speeds is impractical on steep cross slopes
- Subtle grade reversals and periodic changes in tread grade steepness to provide rest/recovery opportunities for riders
- Occasional tighter radius turns or switchbacks that are easily negotiable at lower climbing speeds but interrupt the flow and fun of a descent

### Downhill

- Features that promote flow:
  - Wider radius turns
  - Sight lines sufficient for riders to comfortably maintain speed
  - Berms and jumps
  - More pronounced and steeper tread grade reversals (e.g., dropping in and out of washes)
- Technical features that discourage uphill travel:
  - Steep rocky sections
  - Rock ledges/drops
  - Berms and jumps

Essentially, trails designed for directional travel are more fun to ride in the preferred direction of travel and are often more difficult to ride in the opposite direction.

The BLM would communicate recommended mode of transportation and direction of travel using onsite signage and maps along with online messaging and maps. To communicate recommended direction of travel, the BLM would implement methods that have proven effective on other trail systems designed and managed for directional travel. Those methods include:

- Labeling signs only on the side facing the user traveling in the preferred direction
- Including direction of travel arrows on all maps - trailhead kiosks, trail intersections, paper handout maps, and online maps
- Communicating with other service providers (bike shops, mapping apps, websites, etc.) to ensure that they understand and convey desired management strategies
- Posting onsite and online messages regarding the rationale for directional travel recommendations
- Posting “Wrong Way” signs if necessary

These trail design features, in combination with properly constructed tread features, create tread surfaces that would shed water and minimize erosion from the tread surface. In most cases, soil cleared during trail construction would be widely broadcast both above and below the constructed tread surface or used to construct other trail features (berms and jumps). Excess soil would not be deposited in drainages.

The trails would be constructed with a combination of paid professional trail builders and trained volunteer trail crews. The trails would be constructed in phases starting in the summer of 2023. The completion date for all the proposed trails would be dependent on procurement of funding sources and volunteer labor.

At all trail and road intersections in the project area, the BLM and its partners would post signs indicating trail names with directional arrows, and travel management designations using international symbols indicating

allowable uses (e.g., open to foot, horse and bicycle use, closed to motorized uses) wherever allowable uses change from one route to another. At trail intersections where allowable uses do not change, “Open to/Closed to” travel management designation signage is not needed.

The BLM would post educational and informational signs explaining the purpose for winter wildlife closures and compliance requirements at trailheads and seasonal closure boundaries (see sign example in Appendix E).

Long-term monitoring and maintenance of the trail system would be performed collaboratively by BLM trail crews, community-funded trail crews (e.g., youth trail crews, grant-funded professional trail crews), and volunteer trail crews. BLM and these partners would conduct onsite monitoring a minimum of two times annually (typically early Spring and early Fall) to identify and address maintenance needs, including mitigation of noxious weeds along trail corridors and closed/reclaimed trails. The BLM and/or its partners would perform interim maintenance on an as needed basis (based on conditions reported by trail users or patrollers). Trail maintenance activities would restore the trail to the original design specifications described in the trail management objectives (*See 3.3.6 Trail Management Objectives (TMOs)*) and would address noxious weed infestations. Typical trail maintenance activities would include clearing drainage features (grade reversals and rolling grade dips), de-berming and outsloping tread, re-constructing technical trail features (berms, jumps, etc.), trimming woody vegetation that presents safety hazards, and controlling noxious weeds (physical removal or spraying herbicides as appropriate).

### ***3.3.3 Resource Specific Design Features Common to All Action Alternatives***

1. Cadastral Survey
  - a. The responsible party would identify and protect evidence of the PLSS and related federal property boundaries prior to commencement of any ground-disturbing activity. Contact BLM cadastral survey to coordinate data research, evidence examination and evaluation, and locating, referencing or protecting monuments of the PLSS and related land boundary markers from destruction. In the event of obliteration or disturbance of the federal boundary evidence, the responsible party shall immediately report the incident, in writing, to the Authorized Officer (AO). Cadastral survey will determine how the marker is to be restored.
  - b. Trail work would not encroach onto adjoining private lands, unless through prior agreement and in cooperation with private landowners. Where any part of the treatment is within one-quarter mile of a federal property boundary, contact cadastral survey to evaluate existing title, survey, and use records, determine when boundaries require identification, to select an appropriate method for identifying the boundary.
2. BLM Sensitive Species (Plants)
  - a. The BLM would conduct monitoring of Colorado Desert-parsley along the route system. If the BLM determines that the routes are impacting the Colorado Desert-parsley, the routes may be realigned, or natural barriers may be installed to increase protection. Realignment outside of sensitive plant habitat would be constrained within the 30-meter buffer survey area unless new surveys are completed.
  - b. New routes considered would avoid occupied sensitive plant species habitat.
3. Wildlife
  - a. All designated routes, reroutes, and future construction within the RMZ 2 planning area would be subject to seasonal winter closure from December 1 to April 15 for motorized and mechanized modes of travel for the purpose of reducing disruption to mule deer and elk during the winter season in crucial winter habitat. Year-round administrative access for grazing permit holders and other parties with prior existing rights would continue to be available. BLM would

work cooperatively with CPW and the counties for assistance with monitoring and implementation decisions on seasonal closures. Appropriate signing at gates, trailheads and on routes would inform the public of the closures and the rationale for the closures. The Authorized Officer may modify the time frames after consultation with CPW.

- b. Prohibit surface-disturbing (e.g. infrastructure or trail construction) and disruptive activities (e.g. commercial recreation or trail maintenance) from December 1 to April 15 to protect big game crucial winter habitat.
- c. The golden eagle nest in the project area includes a seasonal timing limitation December 15- July 15 (or until fledging and dispersal of young) for trails within ½ mile of the mapped nest.
- d. To minimize impacts to migratory bird populations, no surface disturbing activities or vegetation removal would occur from May 15 through July 15, without first being surveyed for nesting migratory birds. Project activities shall retain nest trees and avoid modifying identified cavity trees, snags, and perches in the planning area.
- e. To minimize impacts to the known pinyon jay colony, no surface disturbing activities or vegetation removal would occur within 0.7 miles of the mapped pinyon jay colony between February 14 and May 30.

4. Recreation

- a. Construction and maintenance work for routes would be subject to the conditions and guidelines that create sustainable routes and maintain quality recreation.
- b. Special events would follow all stipulations, policies, laws, and regulations from the BLM, State, County and/or City as appropriate (See Appendix F) for the Terms and Conditions, and Stipulations, which would be common to all alternatives.

5. VRM

- a. Proposed routes would be designed and located such that VRM Class Objectives would be met in order to reduce visual contrast and impacts such as avoiding straight lines where possible and reducing unnecessary disturbance.
- b. Permanent structures would be painted a color that enables the facilities to blend with the natural background color of the landscape and selected color should be one or two shades darker than the dominant background color.

6. Soils

- a. Surface disturbance would be kept to a minimum to maintain sufficient vegetation to protect soils.
- b. Where monitoring shows the need to reduce speeds, resultant dust, and/or address erosion concerns, obstacles such as trail armoring, or grade control rock structures would be installed. Trails could also be rerouted in certain locations in a safe manner.
- c. Soil cleared during trail construction would be widely broadcast both above and below the constructed tread surface or used to construct other trail features (berms and jumps). Excess soil would not be deposited in drainages.

7. Riparian

- a. Number of stream crossings would be kept to a minimum, in order to reduce impacts to riparian areas. Route improvements would be implemented at drainage crossings to reduce channel and riparian impacts.
- b. Bridges/boardwalks spanning drainages would be built above the extent of riparian vegetation.

8. Range Management

- a. Grazing and related activities that are currently authorized would continue as permitted.

- b. Closures, rehabilitation and/or re-vegetation of routes would be coordinated with affected grazing permittee(s) prior to implementation through a Cooperative Range Improvement Agreement (BLM Form 4120-6).
- c. Signage informing public of livestock grazing activities would be posted during period of active grazing. This may include kiosks, signage at gates (e.g. "close gate") and crossings.
- d. Alteration of existing range improvements (fences, ponds, gates) would be coordinated with affected grazing permittee(s).

9. Noxious Weeds/Invasive Species

- a. Prior to surface disturbing activities, a noxious weed/invasive species survey would be completed; any noxious weed populations detected would be treated accordingly through approved Uncompahgre Field Office methods.
- b. Noxious weed infestations would be monitored and treated accordingly.
- c. When performing surface disturbing activities, vehicles and equipment would be cleaned and washed prior to activity to reduce the potential for noxious weed/invasive species introduction or spread.
- d. Any materials used for closures, rehabilitation, and/or revegetation of routes would be weed-free.
- e. Public education, such as signage, outreach, and/or collaboration with user groups, would be encouraged to reduce the introduction and spread of noxious weeds/invasive species.

10. Vegetation

- a. Closures, rehabilitation and/or re-vegetation of routes could include reseeding, planting vegetation, and/or constructing barriers. If any ground disturbance is required, such as ripping existing routes, digging post holes for fences, or using rangeland drills, the appropriate clearances/inventories would be completed prior to implementation.
- b. Restoring natural drainage patterns, surface topography, and vegetation would be implemented as needed during rehabilitation of routes that are closed to travel.
- c. During rehabilitation, seeding with a BLM-approved seed mix would take place where areas of compaction exceed 3 feet in width and where natural re-vegetation is unlikely to occur over the next 3 years. Seed would be scattered on the surface and raked in.
- d. Surveys for BLM sensitive plants would be conducted during the appropriate season for the species of concern prior to construction of proposed routes.
- e. All operations shall be conducted in a manner which minimizes damage to or loss of vegetation cover. Cutting, clearing or trimming woody vegetation will be done in a manner that only removes the least amount of vegetative material to facilitate trail development and maintenance.

11. Travel Management

- a. Informational/directional signs would be installed where needed throughout the planning area, which would include kiosks on entry routes as appropriate. Signing for designated routes would be implemented by BLM over time and as funding allows.
- b. All trailheads and routes would be appropriately signed with allowed uses and seasons of use. Because signs are at times vandalized or removed, the user is responsible for determining the correct mode of travel based on official maps. Official maps would be made available to the public.
- c. All designated routes within the planning area would be considered valid and available for use in special events

12. Cultural

- a. All persons associated with operations under an event permit would be informed that any objects or sites of cultural, paleontological, and scientific interest, such as historic or prehistoric resources, graves or grave markers, human remains, ruins, cabins, rock art, fossils, or artifacts

shall not be damaged, destroyed, removed or disturbed. If in connection with operations under this permit any of the above resources are discovered, the permittee would be required to immediately stop operations in the immediate area of the discovery, protect such resources, and notify the BLM authorized officer of the discovery. The immediate area of the discovery would be required to be protected until the operator is notified in writing to proceed by the authorized officer.

- b. Any modifications to the proposed route network would be subject to additional cultural and paleontological review to ensure all identified historic properties or resources are avoided by the proposed modification of design.

#### 13. Law Enforcement

- a. Signs, equipment, markers, fences, livestock watering facilities or any other property found on public land would be required to not be damaged, destroyed, defaced, removed, or disturbed during events.
- b. State and local law enforcement would be required to always be advised of upcoming events. Permittees would be required to submit communication and safety plans that include advising the local sheriff, fire, and emergency medical service of the event.
- c. Permittee, entrants, and/or spectators would be required not to obstruct other valid uses occurring on public land such as grazing, mining, and other recreational uses.
- d. BLM law enforcement would operate under C.F.R.s and supplementary rules and assist in other areas as needed.

#### 14. Lands and Realty

- a. Project would be designed to avoid or otherwise ensure the protection of authorized rights-of-way and other facilities located on the public lands, including coordination with holders of major rights-of-way.

#### 15. Fire

- a. All woody material cut during trail construction or maintenance would be scattered a minimum of 30 feet off trails to avoid creating concentration of hazardous fuels.
- b. Public education, such as signage, outreach, and/or collaboration with user groups, would be encouraged to notify the public about local fire danger and reduce site-specific occurrences of human-caused fires.

### ***3.3.4 Special Recreation Permit Management Under All Action Alternatives***

The BLM would authorize Special Recreation Permits (SRPs) on designated trails at the discretion of the authorized officer as long as they conform to the SRMA Objectives and Setting. SRPs would be subject to permit specific stipulations that would be determined through NEPA analysis. The Authorized Officer would have the discretion to cancel events at any time due to weather (e.g. during drought, snow or rainstorm events, etc.). The BLM reserves the right to add stipulations to permits at any time to resolve unforeseen resource impacts, reduce user conflicts, enhance visitor protection, or address other management issues requiring immediate attention.

### ***3.3.5 Reroutes***

The BLM is proposing to conduct additional trail development that is not described in detail in this proposal. The additional conceptual actions that may be reviewed and approved in the future are described below:

- Reroutes (closure, reclamation and replacement) of unsustainable trails within the “Reroute Corridors” identified in Appendix A Map 7 and shown in **Table 7**. These reroutes total approximately 9 miles. When a reroute is completed, the old unsustainable alignment will be

closed and reclaimed. Additional reroutes may be completed as necessary in Jumbo Mountain SRMA.

The trails would be constructed using a variety of hand tools (pick mattocks, shovels, McLeods, etc.) and motorized equipment (trail dozers, mini excavator, skid-steer). Finished tread width would vary from 24 inches to 48 inches. Approximately 5 to 10 percent of the routes could be wider than 36 inches to allow for race and event participants to safely pass one another at specified locations along designated courses without riding off constructed tread surfaces. All trails would be constructed with a full bench cut (not half-bench cut and fill). Temporary disturbance of up to 72 inches could occur during construction. Corridor width would be approximately 6 to 9 feet, and corridor height would be approximately 10 to 12 feet (corridor is the cleared, or partially cleared, area above and to the sides of the trail tread).

Table 7: Reroutes Under All Action Alternatives

Route Type	Route Length (miles/feet)	Route Width (feet)	Area (square feet)	Acres of Disturbance
Within Identified “Reroute Corridors”	9/ 47,520	2	95,040	2.1

### 3.3.6 Trail Management Objectives (TMOs)

To provide opportunities in the Jumbo Mountain SRMA for individuals with disabilities, the BLM would authorize the use of non-wheelchair adaptive cycles, including those that meet the BLM definition of a Class 1 or 2 e-bike, and are sufficiently narrow to allow all of the vehicle’s wheels to remain within the constructed/maintained tread width specified in the trail-specific trail management objective (TMO) for that trail. A BLM authorized officer may also allow exceptions for persons with disabilities on a case-by-case basis. See additional information on TMOs below.

The Jumbo Mountain system-wide TMO is included in Appendix G. Detailed trail-specific TMOs would be developed prior to construction of each trail. Those trail specific TMOs would be based on the trail descriptions.

All trail users would be expected to remain within the constructed/maintained tread width specified in the trail specific TMO for that trail.

## 3.4 Alternative B – Maximum Resource Protection

### 3.4.1 Route Designations

The Maximum Resource Protection Alternative would designate approximately 14.7 miles of existing trails and new or re-routed trails, and close and reclaim approximately 17.1 miles of trails within the planning area. **Table 8** shows miles and seasonal travel limitations under Alternative B. (See Appendix A, Map 4.) The Design features would remain the same as all action alternatives, described in **3.3.2 Design Features Common to All Action Alternatives** and **3.3.3 Resource Specific Design Features Common to All Action Alternatives**. The BLM would authorize Special Recreation Permits (SRPs) as outlined in **3.3.4 Special Recreation Permit Management Under All Action Alternatives**. Reroutes would be conducted as described under **3.3.5 Reroutes**. Trail management objectives described in **3.3.6 Trail Management Objectives (TMOs)** would apply.



Table 8: Miles Open and Seasonal Travel Limitations Under Alternative B

OHV Open	Limited to Administrative OHV, Open to Public Non-motorized	Limited to Non-Motorized (Mechanized, Pedestrian, Equestrian)	Closed	Totals	Big Game Winter Seasonal Travel Limitation	Raptor Nest Travel Limitation
0	2.2	12.5	17.1	31.8	RMZ 2 Trails are closed to all use (motorized, mechanized, horse, and pedestrian) from December 1 – April 15	Routes within 0.5 miles of raptor nest are closed to all travel

The BLM would implement an annual seasonal travel limitation for all uses (horseback and pedestrian, etc.) in addition to motorized and mechanized uses from December 1 to April 15 on all the existing trails in RMZ 2, and any future reroutes or new trails in RMZ 2 to reduce disruption of wintering big game. This seasonal travel closure adds additional limitations compared to what is prescribed in the 2020 UFO RMP and further restricts trail use by pedestrians and horses. No routes would be subject to seasonal travel limitations to protect nesting raptors because all routes within approximately 0.5 miles of the nest are closed to all travel.

### 3.5 Alternative C – Maximum Access

#### 3.5.1 Route Designations

The Maximum Access Alternative would designate approximately 27.5 miles of existing trails and close and reclaim approximately 4.3 miles of trails within the planning area. **Table 9** shows miles and seasonal travel limitations under Alternative C. (See Appendix A, Map 5). Design features would remain the same as all action alternatives, described in **3.3.2 Design Features Common to All Action Alternatives** and **3.3.3 Resource Specific Design Features Common to All Action Alternatives**. The BLM would authorize Special Recreation Permits (SRPs) as outlined in **3.3.4 Special Recreation Permit Management Under All Action Alternatives**. Reroutes would be conducted as described under **3.3.5 Reroutes**. Trail management objectives described in **3.3.6 Trail Management Objectives (TMOs)** would apply.

Table 9: Miles Open and Seasonal Travel Limitations Under Alternative C

OHV Open	Limited to Administrative OHV, Open to Public Non-motorized	Limited to Non-Motorized (Mechanized, Pedestrian, Equestrian)	Closed	Totals	Big Game Winter Seasonal Travel Limitation	Raptor Nest Travel Limitation
4.3	0.1	23.1	4.3	31.8	RMZ 2 Trails are closed to Motorized and Mechanized Use from December 1 – April 15 per the 2020 UFO RMP	If nest occupied, relevant routes would be closed to all uses from December 15 – July 15

The BLM would implement an annual seasonal travel limitation for motorized and mechanized use from December 1 to April 15 on all of the existing trails in RMZ 2, and any future reroutes or new trails in RMZ 2 to reduce disruption of wintering big game. The seasonal travel limitation for motorized and mechanized uses in RMZ 2 for protection of big game winter habitat would remain in place as prescribed by the 2020 UFO RMP. A

seasonal travel limitation for all uses would be in place on 2.4 miles of trails from December 15 – July 15 to protect raptors.

## 3.6 Alternative D - Proposed Action

### 3.6.1 Route Designations

The Proposed Action is for BLM to designate approximately 24.4 miles of existing trails and new or re-routed trails, and to close and reclaim approximately 7.4 miles of trails within the planning area. The routes identified for closure would primarily be replaced by new routes (reroutes) designed to enhance recreation experiences and reduce resource impacts (e.g., soil erosion, reduced water quality) from the trails they would replace.

**Table 10** shows miles and seasonal travel limitations under Alternative D. (See Appendix A, Map 6.) Design features would remain the same in all action alternatives, described in **3.3.2 Design Features Common to All Action Alternatives** and **3.3.3 Resource Specific Design Features Common to All Action Alternatives**. The BLM would authorize Special Recreation Permits (SRPs) as outlined in **3.3.4 Special Recreation Permit Management Under All Action Alternatives**. Reroutes would be conducted as described under **3.3.5 Reroutes**. Trail management objectives described in **3.3.6 Trail Management Objectives (TMOs)** would apply.

Table 10: Miles Open and Seasonal Travel Limitations Under Alternative D

OHV Open	Limited to Administrative OHV, Open to Public Non-motorized	Limited to Non-Motorized (Mechanized, Pedestrian, Equestrian)	Closed	Totals	Big Game Winter Seasonal Travel Limitation	Raptor Nest Travel Limitation
0	4.4	20.0	7.4	31.8	RMZ 2 Trails are closed to Motorized and Mechanized Use from December 1 – Apr 15 per the 2020 UFO RMP	If nest occupied, relevant routes would be closed to all uses from December 15 – July 15

The BLM would implement an annual seasonal travel limitation for motorized and mechanized use from December 1 to April 15 on all of the existing trails in RMZ 2, and any future reroutes or new trails in RMZ 2 to reduce disruption of wintering big game. The seasonal travel limitation for motorized and mechanized uses in RMZ 2 for protection of big game winter habitat would remain in place as prescribed by the 2020 UFO RMP. A seasonal travel limitation for all uses would be in place on 2.4 miles of trails from December 15 – July 15 to protect raptors.

### 3.6.2 New Routes in the Proposed Action Alternative

Under the Proposed Action, construction of up to an additional 10 miles of new trails that are not replacing existing routes could occur as described in **Table 11**. This would be in addition to the reroutes described in **3.3.5 Reroutes**. These new trails would all be constructed within the SRMA boundary. The priority for implementation would be reroutes, then followed by new trails.

The BLM would complete site-specific surveys for these routes in the future. Programmatic or general analysis of the impacts of these actions and their conceptual buffered alignment area is included in this EA. Additional analysis for site specific actions may be required for compliance with the NEPA.

Table 11: New Routes Under the Proposed Action

Route Type	Route Length (miles/feet)	Route Width (feet)	Area (square feet)	Acres of Disturbance
Future Conceptual	10/52,800	2	105,600	2.4

### 3.6.3 e-Bikes

The BLM would designate all of the new trails and reroutes, along with all of the existing designated mechanized trails in the planning area, as open to Class 1 e-bikes, with a formal designation of “OHV Limited: Limited to Class 1 e-bikes”. By definition, Class 1 e-bikes are equipped with a motor that provides assistance only when the rider is pedaling, and that ceases to provide assistance when the bicycle reaches the speed of 20 mph. The motor’s power is limited to one horsepower (750 watts). This alternative would prohibit Class 2 or 3 e-bikes on the proposed new trails or existing trails in the planning area.

To avoid confusion with the formal designation of “OHV Limited: Limited to Class 1 e-bikes” by calling e-bikes OHVs throughout this analysis, e-bikes are grouped with mechanized bicycles in the Alternative D-Proposed Action analyses. While e-bikes are a newer type of trail based recreation, research indicates that Class 1 e-bikes have largely similar impacts as traditional bikes (IMBA 2015) and e-bikers tend to be older in age than traditional bikers and use their e-bikes to ride further distances while keeping up with the rest of their group (Perry and Casey, 2020). E-bikes would be subject to any additional seasonal limitations the same as traditional bicycles.

## 3.7 Alternatives Considered but Eliminated from Detailed Analysis

The BLM considered an alternative that would include seasonal travel limitations in portions of RMZ 1 to protect wintering big game. This alternative was eliminated from detailed analysis because it would have resulted in 93 percent of the trail system being closed to all uses for 5 months of the year. Extensive seasonal closures to all travel does not meet the objectives of the SRMA and has the potential to cause new user-created recreational disturbance outside the SRMA, further impacting adjacent big game winter habitat that is intact and relatively undisturbed.

## 4 – AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter provides a description of the human and environmental resources and relevant issue statements presented in Table 4: Issues Identified for Detailed Analysis that may be affected by the proposed action and no action alternative. It also presents comparative analyses of the direct, indirect and cumulative effects on the affected environment stemming from the implementation of the proposed action and other alternatives.

Analysis assumptions create parameters for impact analysis and a standard framework for impacts across different resources. The analysis assumptions used in Chapter 4 are as follows:

- The trail system is an existing disturbance. The existing disturbance for any resource is not analyzed as new impacts but rather part of the Affected Environment and/or the No Action Alternative (Alternative A), as appropriate.
- A net change to impacts between Alternatives may occur from differences in authorized trail mileages, reroutes, seasonal travel limitations for raptors, and in Alternative B the addition of a pedestrian and equestrian winter travel restriction in RMZ 2.
- The motorized and mechanized seasonal travel restriction for big game winter habitat in RMZ 2 is part of the Affected Environment because it is an existing land use decision per the 2020 UFO RMP.
- The BLM expects public compliance with seasonal travel limitations, signage, and other restrictions and analysis is based on this overall compliance.

### 4.1 ISSUE STATEMENT #1

How much sediment would be generated by maintenance of existing trails and construction of new trails?

#### 4.1.1 Affected Environment

The planning area is located on soils derived from the weathering of the Mancos Shale Formation. There are seven main soil units across the planning area. The erosion hazard for roads and trails is severe and runoff potential is very high. See **Table 12** and **Figure 1** below. These ratings are dependent on the slope of the site, which ranges from 1 – 40 percent or more in some locations. More soil properties can be found in the table below from the Paonia Soil Survey (USDA Natural Resources Conservation Service, 2022).

Table 12: Soil Erosion Hazard Potential

Map Unit Symbol*	Soil Unit Name	Geomorphic Description	Ecosite	Hazard for Roads & Trails	Runoff Potential	Acres in the Planning Area
11	Badland	Valleys, hillsides, flood plains, gullies		Severe	Very High	473
27	Colona silty clay loam, 6 to 12 percent slopes	Terraces, fans	R034BY302UT: Upland Clay (Western Wheatgrass)	Severe	Very high	32

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Map Unit Symbol*	Soil Unit Name	Geomorphic Description	Ecosite	Hazard for Roads & Trails	Runoff Potential	Acres in the Planning Area
39	Fughes loam, 25 to 65 percent slopes	Valleys, alluvial fans	R048AY247CO: Deep Clay Loam	Severe	Very High	85.6
41	Fughes-Curecanti stony loams, 25 to 65 percent slopes	Valleys, alluvial fans	R048AY247CO: Deep Clay Loam	Severe	Very High	12
44	Gullied land	Drainageways, flood plains		Moderate	Medium	35
47	Kech-Rock outcrop complex, 10 to 40 percent slopes	Ridges, hills	R034BY322UT: Upland Shallow Loam (Two-Needle Pinyon / Utah Juniper)	Severe	Very High	296
56	Midway-Gaynor silty clay loams, 10 to 40 percent slopes	Hills, ridges		Severe	Very High	632
75	Torriorthents-Rock outcrop, sandstone, complex	Mesas, pediments		Severe	Very High	101
76	Torriorthents-Rock outcrop, shale, complex	Mesas, pediments		Severe	Very High	279
GR6	Fughes-Fughes, cool-Fughes very stony, cool complex 5 to 25 percent slopes	Valleys, alluvial fans	R048AY247CO: Deep Clay Loam	Severe	Very High	17.5



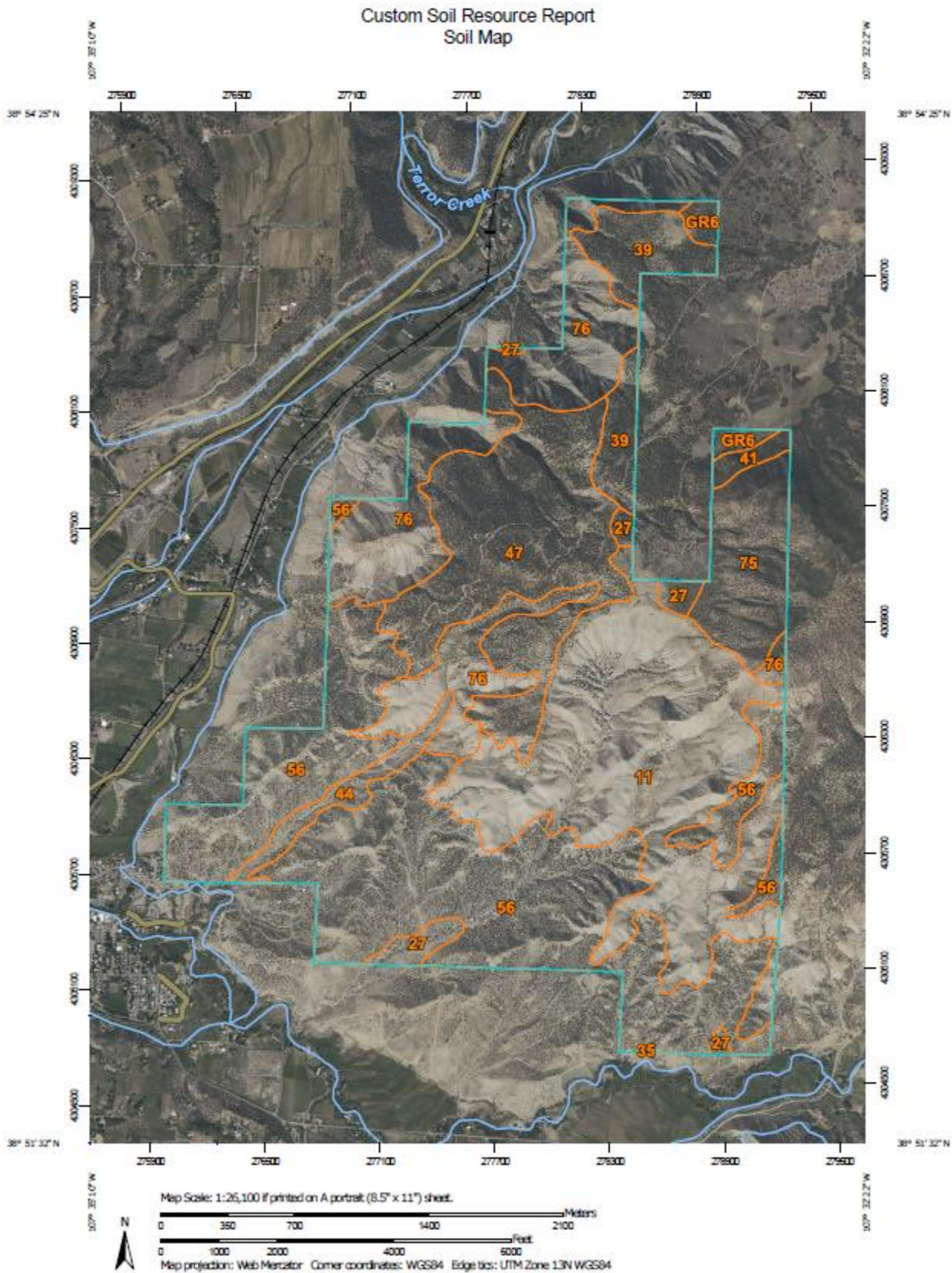


Figure 1: Soil Map Units

#### 4.1.2 Reasonably Foreseeable Environmental Trends

Drought continues to impact the region and now is considered a mega-drought lasting 22 years. The current drought is the longest in 1,200 years (Williams et al., 2022). It is reasonable to expect additional years of drought in the future and a prolonged period of recovery of soil moisture once precipitation returns to the normal 30-year average. **Figure 2** shows Delta County drought from 2000 to present.

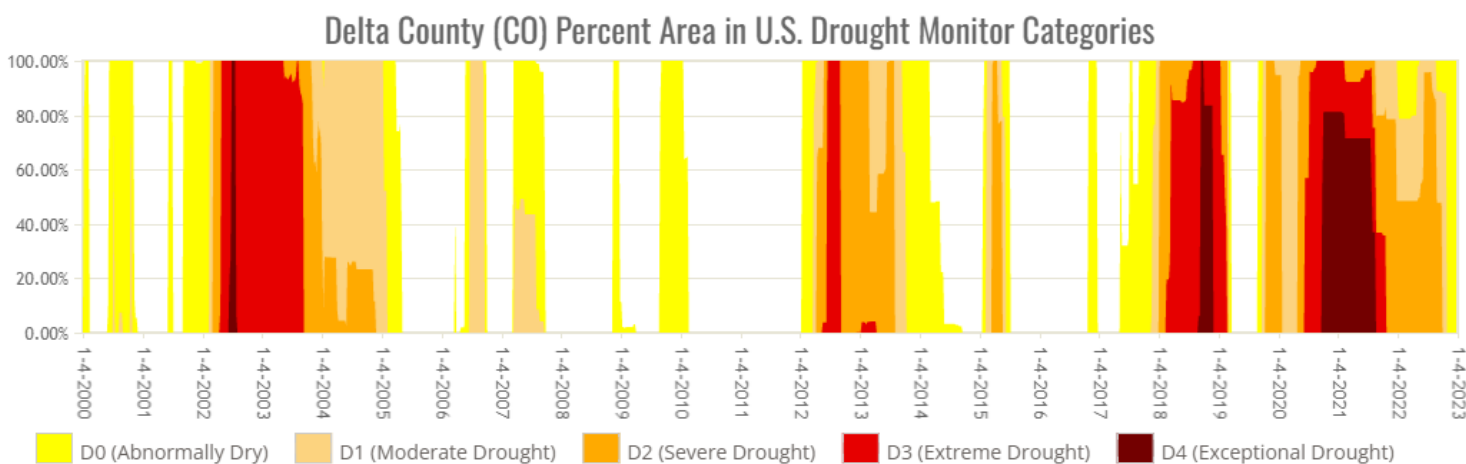


Figure 2: U.S. Drought Monitor ratings for years 2000-2022

#### 4.1.3 Other Planned Actions in the Area

The BLM is likely to conduct treatments in the Jumbo Mountain area to manage various vegetation communities for a variety of objectives including removing hazardous fuels, improving wildlife habitat, and infrastructure protection.

#### 4.1.4 Effects of Alternative A - No Action

Under the No Action Alternative, the BLM would not designate or reroute the existing routes. There is currently 31.8 miles open to OHV. Many of the existing trails are former game trails or were ridden in and lack any kind of drainage features such as grade reversals or rolling dips (Photo 1 and Photo 2). RMZ 1 would allow mechanized, pedestrian and equestrian use year around. There is a winter closure for motorized and mechanized use from December 1 to April 15 on all of the existing trails in RMZ 2 limiting travel to foot and horse travel only during winter months. Trails are more susceptible to impacts when the trails are wet and muddy in the winter months by increasing cupping and rutting. Annual erosion on the existing trails in RMZ 1 and 2, assuming winter use by horse and foot traffic is estimated using the Water Erosion Prediction Project tool (Elliot et al., 2010). See

**Table 13.**





Photo 1 and Photo 2: Existing trails with lack of trail maintenance.

Table 13: Erosion Potential Under the No Action Alternative

Segments	Length Trail Segment (Miles)	Ave Width (ft.)	Trail Gradient (%)	Trail Design	Cross Drain Spacing (ft.)	Native Surface (pounds of Sediment Produced)
155	31.8 miles	3	8	Outsloped/Rutted in winter	300	31,230

**Mean annual trail surface erosion totals (error estimate is +/- 50%)** 15.6 tons

The erosion model assumed an average width of 3 feet, gradient of 8 percent, and natural cross drains every 300 feet. Using these parameters, the estimated annual erosion of sediment from the trails is 56 pounds of sediment leaving the trail for every 300 feet of trail annually. The trail buffer is 10 feet wide and includes the 3-foot-wide tread surface as well as 7 feet of downhill slope before reaching the native hillslope. This results in an estimated 15.6 tons of sediment produced annually from the 31.8 miles of trail surface during regular use. The error estimate of the model is +/- 50 percent.

There are several drainage crossings along the existing powerline road with severe headcutting below culverts (Photo 3 and 4). The drainages below the culverts are deeply incised with sloughing material entering the stream channel. Recent storm events deposited large amounts of sediment downstream of the culvert shown below in the Hawk's Haven subdivision.





Photo 3 Photo 4 Western Area Power Authority (WAPA) road crossing at an unnamed natural drainage.

Gully formation is a somewhat natural phenomenon in the Mancos Shale formation and can be triggered by concentrating flows in a culvert, causing severe downcutting as has happened along the WAPA powerline road in Photos 3 & 4. Intense downcutting like this was widespread across the Colorado river basin beginning in the late 19<sup>th</sup> century and extending through the early decades of the 20<sup>th</sup> century. Changes in the land use like road building, irrigation diversions, and livestock grazing likely triggered the arroyo cutting phase (Gellis et al., 1993). The channel in Photos 3 and 4 is not likely to “heal” until the concentration of water is removed, and the channel evolves through the channel widening phase and eventually the sediment storage phase.

#### ***4.1.5 Effects of Alternative B – Maximum Resource Protection***

The maximum resource protection alternative would designate approximately 14.7 miles of existing trails and new or re-routed trails, and close and reclaim approximately 17.1 miles of trails within the planning area. RMZ1 would allow mechanized, pedestrian and equestrian use year around. There is a winter closure for all trail use from December 1 to April 15 on all of the existing trails in RMZ 2 limiting travel. Annual erosion on the existing trails in RMZ 1 is estimated using the Water Erosion Prediction Project tool (Elliot et al., 2010). See **Table 14.**

Table 14: Erosion Potential Under Alternative B

Segments	Length Trail Segment (Miles)	Ave Width (ft.)	Trail Gradient (%)	Trail Design	Cross Drain Spacing (ft.)	Native Surface (pounds of Sediment Produced)
39	6.1 miles RMZ 1	3	6	Outsloped/Rutted in winter	100	1,594 (0.8 tons)
46	8.6 miles RMZ 2	3	6	Outsloped	100	1,312 (0.7 tons)

**Mean annual trail surface erosion totals (error estimate is +/- 50%)**    1.5 tons

The erosion model assumed an average width of 3 feet, gradient of 6 percent, and natural cross drains every 100 feet after implementing reroutes and installing grade reversals. Using these parameters, the estimated annual erosion of sediment from the trails is 6 pounds of sediment leaving the trail for every 100 feet of trail annually. The trail buffer is 10 feet wide and includes the 3-foot-wide tread surface as well as 7 feet of downhill slope before reaching the native hillslope. This results in an estimated 1.5 tons of sediment produced annually from the 14.7 miles of trail surface during regular use. The error estimate of the model is +/- 50 percent.

A total reduction of approximately 14.1 tons of sediment compared to no action would be expected by implementing the Maximum Resource Protection Alternative. The Maximum Resource Protection Alternative would result in 1.5 tons of sediment generated from the trail system after closure, realignments, and maintenance and installation of new grade reversals on the existing trails compared to 15.6 tons of annual sediment generated in the no action alternative.

#### ***4.1.6 Effects of Alternative C – Maximum Access***

The Maximum Access Alternative would designate approximately 27.5 miles of existing trails and new or re-routed trails, and to close and reclaim approximately 4.3 miles of trails within the planning area. The routes identified for closure would primarily be replaced by new routes (reroutes) designed to enhance recreation experiences and reduce resource impacts (e.g., soil erosion, reduced water quality) from the trails they would replace. RMZ 1 would allow mechanized, pedestrian and equestrian use year around. There is a winter closure for motorized and mechanized use from December 1 to April 15 on all of the existing trails in RMZ 2 limiting travel to foot and horse travel only during winter months. Trails are more susceptible to impacts when the trails are wet and muddy in the winter months by increasing cupping and rutting. Annual erosion on the existing trails in RMZ 1 and 2 assuming winter use by horse and foot traffic is estimated using the Water Erosion Prediction Project tool (Elliot et al., 2010). See **Table 15**.

Table 15: Erosion Potential Under Alternative C

Segments	Length Trail Segment (Miles)	Ave Width (ft.)	Trail Gradient (%)	Trail Design	Cross Drain Spacing (ft.)	Native Surface (pounds of Sediment Produced)
87	9.6 miles RMZ 1	3	6	Outsloped/Rutted in winter	100	2,509(1.3 tons)
73	17.9 miles RMZ 2	3	6	Outsloped/Rutted in winter	100	4,678(2.4 tons)

**Mean annual trail surface erosion totals (error estimate is +/- 50%)** 3.7 tons

The erosion model assumed an average width of 3 feet, gradient of 6 percent, and natural cross drains every 100 feet after implementing reroutes and installing grade reversals. Using these parameters, the estimated annual erosion of sediment from the trails is 6 pounds of sediment leaving the trail for every 100 feet of trail annually. The trail buffer is 10 feet wide and includes the 3-foot-wide tread surface as well as 7 feet of downhill slope before reaching the native hillslope. This results in an estimated 3.7 tons of sediment produced annually from the 27.5 miles of trail surface during regular use. The error estimate of the model is +/- 50 percent.

A total reduction of approximately 11.9 tons of sediment would be expected by implementing the Maximum Access Alternative. The Maximum Access Alternative would result in 3.7 tons of sediment generated from the trail system after realignments and maintenance and installation of new grade reversals on the existing trails compared to 15.6 tons of annual sediment generated in the no action alternative.

#### ***4.1.7 Effects of Alternative D – Proposed Action***

The proposed action is for BLM to designate approximately 24.4 miles of existing trails and new or re-routed trails, and to close and reclaim approximately 7.4 miles of trails within the planning area. The routes identified for closure would primarily be replaced by new routes (reroutes) designed to enhance recreation experiences and reduce resource impacts (e.g., soil erosion, reduced water quality) from the trails they would replace.

RMZ1 would allow e-bikes, mechanized, pedestrian and equestrian use year around. There is a winter closure for motorized and mechanized use from December 1 to April 15 on all of the existing trails in RMZ 2 limiting travel to foot and horse travel only during winter months. Trails are more susceptible to impacts when the trails are wet and muddy in the winter months by increasing cupping and rutting. Annual erosion on the existing trails in RMZ 1 and 2 assuming winter use by horse and foot traffic is estimated in **Table 16** below.

Table 16: Erosion Potential

Segments	Length Trail Segment (Miles)	Ave Width (ft.)	Trail Gradient (%)	Trail Design	Cross Drain Spacing (ft.)	Native Surface (pounds of Sediment Produced)
87	8.2 miles RMZ 1	3	6	Outsloped/Rutted in winter	100	2,143(1.1 tons)
58	16.2 miles RMZ 2	3	6	Outsloped/Rutted in winter	100	4,234(2.1 tons)

**Mean annual trail surface erosion totals (error estimate is +/- 50%)** 3.2 tons

The erosion model assumed an average width of 3 feet, gradient of 6 percent, and natural cross drains every 100 feet but assumed the trail may be rutted from winter use and therefore carry sediment on the trail further and potentially produce sediment that are mobilized beyond the trail buffer. The trail buffer is 10 feet wide and includes the 3-foot-wide tread surface as well as 7 feet of downhill slope before reaching the native hillslope. Using these parameters, the estimated annual erosion of sediment from the trails with winter use is 4.95 pounds of sediment leaving the trail for every 100 feet of trail annually. This results in an estimated 3.2 tons of sediment produced annually from the 8.2 miles of trail in RMZ 1 and 16.2 miles of trail in RMZ 2. The error estimate of the model is +/- 50 percent.

The BLM is also proposing to conduct additional trail development of up to an additional 10 miles of trails built to International Mountain Bike Association (IMBA) trail building standards. Annual erosion on the new trails is estimated in **Table 17** below.

Table 17: Erosion Potential for New Trail Development

Segments	Length Trail Segment (Miles)	Ave Width (ft.)	Trail Gradient (%)	Trail Design	Cross Drain Spacing (ft.)	Native Surface (pounds of Sediment Produced)
1	10 miles	3	6	Outsloped/Rutted in winter	100	2,613

**Mean annual trail surface erosion totals (error estimate is +/- 50%)      1.3 tons**

The erosion model assumed an average width of 3 feet, gradient of 6 percent, and natural cross drains every 100 feet built to IMBA standards with grade reversals. Using these parameters, the estimated annual erosion of sediment from the trails is 4.95 pounds of sediment leaving the trail for every 100 feet of trail annually. The trail buffer is 10 feet wide and includes the 3-foot-wide tread surface as well as 7 feet of downhill slope before reaching the native hillslope. This results in an estimated 1.3 tons of sediment produced annually from the 10 miles of trail surface. The error estimate of the model is +/- 50 percent.

The BLM would designate all of the existing and new trails as open to Class 1 e-bikes. Very little research has been done comparing impacts of class 1 e-bikes to traditional mountain bikes. A study funded by IMBA in a wetter environment found impacts similar to traditional mountain bikes (IMBA, 2015).

Direct impacts would occur during construction of trail reroutes and new trail tread. Design features would reduce erosion during construction by keep disturbance to a minimum and soil cleared during trail construction would be broadcast widely, but not in drainages. Long-term direct impacts from erosion of disturbed areas including trails, roads, and congregation areas at overlooks, hilltops and trailheads is expected. Long-term erosion would be reduced with the application of IMBA trail building standards on new trails as well as monitoring to determine if additional maintenance is needed including placement of grade reversals and rolling dips. Indirect impacts would include mobilization of sediment from cut and fill areas to adjacent uplands during runoff events. During larger rain events, sediment could be mobilized to adjacent uplands and ephemeral drainages.

A total reduction of approximately 11.1 tons of sediment would be expected by implementing the Proposed



Action. The Proposed Action would result in 4.5 tons of sediment generated from the trail system after realignments and maintenance and installation of new grade reversals on the existing trails compared to 15.6 tons of annual sediment generated in the No Action Alternative.

## **4.2 ISSUE STATEMENT #2**

How would the Proposed Action and alternatives contribute to the establishment and spread of noxious weeds and invasive species?

### ***4.2.1 Affected Environment***

The analysis area for noxious weeds and invasive species (weeds) impacts is the existing 31.8 miles of trails with 100 feet width buffer within the approximately 1,900-acre project area. The buffer is applied to consider a 50-foot width on each side of trails in which there is increased potential for noxious weed and invasive species establishment and spread. This buffer area considers the close relationship between weeds establishment and increased proximity to locations where disturbance and increased activity occur. Utilizing this methodology, the current weeds buffer area along existing trails comprises approximately 385.5 acres or approximately 20 percent of acres within the TMP project area.

Noxious weeds are plants designated by Federal or State law. BLM also identifies invasive species that cause concern but may not necessarily be designated as Federal or State noxious listed weeds. Weeds may be present within and near the analysis area. Acres affected by weeds can continually change as new infestations establish or as infestations are reduced or eradicated. The 2020 UFO RMP goal for weeds (VEG-WDS-GOAL-01) directs the suppression and eradication where possible of noxious and invasive species through integrated weed management to support healthy plant communities.

Past and present uses and environmental conditions affect the analysis area for weeds. Weed infestations are typically associated with bare ground and higher traffic areas, which are often areas such as roads, high recreation use areas (e.g., trailheads and camping areas), and livestock concentration areas. Areas are more susceptible to weed infestation where there is bare ground or a reduction in the desirable plants that can effectively compete against weeds; therefore, healthier landscapes with more desirable plants and stable soils (e.g., less erosion) are more effective in limiting weed infestation and spread.

Weeds can be introduced or spread by traveling on equipment, people, and/or animals, including livestock, recreational animals, and wildlife. Additionally, use of materials that are not “weed-free”, such as seed or hay, can introduce weeds. Increases in these uses and occurrences are often associated with increased weed establishment and infestation. The current routes within the Jumbo Mountain SRMA can lead to an increased potential for weed establishment and infestation in the areas adjacent to them due to disturbance and continued use without BLM management through route designations and the application of design features for weeds-related resources. In addition to human and animal effects, environmental occurrences such as drought or severe wildland fire can increase weeds in the analysis area primarily by reducing desirable plant competition and increasing bare ground.

Weeds inventory and treatment is ongoing. Treatments, including integrated weed management tools, have been analyzed under other UFO NEPA analysis, specifically the 2013 *Programmatic Environmental Analysis for Integrated Weed Management Treatments* (DOI-BLM-S050-2012-0029 EA) and 2018 *Programmatic Environmental Analysis for Incorporation of Rimsulfuron, Aminopyralid, and Fluroxypyr into the Integrated Weed Management Program* (DOI-BLM-CO-S050-2018-03 EA). Weeds treatments are planned and

implemented annually, and these will continue to occur into the future under the most current and applicable NEPA analysis.

#### ***4.2.2 Reasonably Foreseeable Environmental Trends***

Reasonably foreseeable environmental trends affecting weeds within the analysis area include conditions such as drought and wildland fire.

#### ***4.2.3 Other Planned Actions in the Area***

Other planned actions affecting weeds in the analysis area include permitted livestock grazing.

#### ***4.2.4 Effects of Alternative A - No Action***

Under Alternative A (No Action), there would be no change from current conditions in the analysis area. Authorized uses and trail mileage would not change, and there would continue to be no route designation or application of design features. The current weeds buffer area along existing trails within the Jumbo Mountain TMP project area would not change and would remain at approximately 385.5 acres, or approximately 20 percent of its acreage.

Because no management would be applied, the current estimated weeds buffer acreage would be the highest of all alternatives. Current uses, planned actions, and environmental trends would continue to impact weed establishment and spread. UFO weeds inventory and treatments would continue as planned annually. No BLM management on existing routes combined with current and foreseeable uses and environmental trends is anticipated to keep the estimated weeds buffer acreage at current or potentially higher levels due to an increased potential for weed establishment and infestation. Under Alternative A (No Action), there would not be a positive impact toward the UFO goal of weed suppression and eradication and movement toward healthier plant communities.

#### ***4.2.5 Effects of Alternative B – Maximum Resource Protection***

Under Alternative B, current conditions would change in the analysis area as the existing trail mileage would be reduced, design features would be applied, and SRPs would be issued when applicable. Due to the reduction in routes from 31.8 miles under current conditions to 14.7 miles, this mileage with a 100-foot weeds buffer would comprise approximately 178.2 acres within the project area, or approximately 9.1 percent of its acreage. This is an estimated 53.8 percent acreage reduction from current conditions.

BLM route designation and management with project components (*Section 3.3.1 Adaptive Management Common to All Action Alternatives*) and the application of design features (*Section 3.3.2 Design Features Common to All Action Alternatives*) would reduce potential weed introduction and spread in the analysis area. This would occur due to both directly from weeds-specific design features and indirectly from design features for other resources.

Weeds-specific design features requiring inventory prior to surface disturbance and any needed treatment and monitoring would reduce weeds. The requirement to clean vehicles and equipment before surface disturbing activities would limit introduction and spread, as well as the requirement that any materials used in rehabilitation activities be “weed-free”. While weeds can still travel and spread through human and animal use, the design feature encouraging public education and collaboration on weeds would assist in potentially reducing weed impacts. Additionally, increased trail monitoring under this alternative would increase weed detection and response capability above that of the current UFO weeds planning and management capacity, and subsequently also contribute to reducing weed introduction and spread.

Other resource design features affecting weeds indirectly include those for trail design, wildlife, soils, vegetation, and range management. Trail design features to reduce erosion and soils design features to also reduce disturbance, limit erosion, and maintain vegetation would help decrease weeds. Wildlife seasonal closures limiting use would also be anticipated to limit the potential for weeds introduction and spread.

Reclamation of some existing routes with vegetation design features that reduce bare ground through seeding and limit vegetation loss, the fire design feature limiting fuel load, and the range management design feature to coordinate grazing and rehabilitated routes all also reduce potential weed establishment and spread. Additionally, the issuance of SRPs as applicable with permit-specific weeds stipulations would also help reduce potential weed introduction and spread.

With BLM management and the closure of some existing routes, the estimated weeds acreage buffer under Alternative B would be the lowest of all alternatives. Current uses, planned actions, and environmental trends would continue to impact weed establishment and spread. UFO weeds inventory and treatments would continue as planned annually. BLM management combined with current and foreseeable uses and environmental trends is anticipated to reduce the estimated weed buffer acreage below that of current levels with a reduced potential for weed establishment and infestation. Under Alternative B, there would be a positive impact toward the UFO goal of weed suppression and eradication and healthier plant communities.

#### ***4.2.6 Effects of Alternative C – Maximum Access***

Under Alternative C, current conditions would change in the analysis area as the existing trail mileage would be reduced, design features would be applied, and SRPs would be issued when applicable. Due to the reduction in routes from 31.8 miles under current conditions to 27.5 miles, this mileage with a 100-foot weeds buffer would comprise approximately 332.1 acres within the project area, or approximately 17 percent of its acreage. This is an estimated 13.8 percent acreage reduction from current conditions.

BLM route designation and management with project components (*Section 3.3.1 Adaptive Management Common to All Action Alternatives*) and the application of design features (*3.3.2 Design Features Common to All Action Alternatives*) and SRP issuance when applicable would have the same effects on weed introduction and spread under Alternative C as described under Alternative B.

With BLM management and the closure of some existing routes, the estimated weeds acreage buffer under Alternative C would be the second highest of all alternatives (less than Alternative A, but greater than Alternatives B and D). Current uses, planned actions, and environmental trends would continue to impact weed establishment and spread. UFO weeds inventory and treatments would continue as planned annually. BLM management and route designation combined with current and foreseeable uses and environmental trends is anticipated to reduce the estimated weed buffer acreage below that of current levels with a reduced potential for weed establishment and infestation. Under Alternative C, there would be a positive impact toward the UFO goal of weed suppression and eradication and healthier plant communities.

#### ***4.2.7 Effects of Alternative D – Proposed Action***

Under Alternative D, current conditions would change in the analysis area as the existing trail mileage would be reduced, design features would be applied, and SRPs would be issued when applicable. Due to the reduction in routes from 31.8 miles under current conditions to 24.4 miles, this mileage with a 100-foot weeds buffer would comprise approximately 295.8 acres within the project area, or approximately 15 percent of its acreage. This is an estimated 23.3 percent acreage reduction from current conditions.

BLM route designation and management with project components (**3.3.1 Adaptive Management Common to All Action Alternatives**) and the application of design features (**3.3.2 Design Features Common to All Action Alternatives**) and SRP issuance when applicable would have the same effects on weed introduction and spread under Alternative D as described under Alternative B.

With BLM management and the application of design features and the closure of some existing routes, the estimated weeds acreage buffer under Alternative D would be the third highest of all alternatives (more than Alternative B, but less than Alternatives A and C). Current uses, planned actions, and environmental trends would continue to impact weed establishment and spread. UFO weeds inventory and treatments would continue as planned annually. BLM management and route designation combined with current and foreseeable uses and environmental trends is anticipated to reduce the estimated weed buffer acreage below that of current levels with a reduced potential for weed establishment and infestation. Under Alternative D, there would be a positive impact toward the UFO goal of weed suppression and eradication and healthier plant communities.

### 4.3 ISSUE STATEMENT #3

How would trail construction, use, and maintenance, as well as route closure and changes in route designations impact the BLM sensitive Colorado Desert-parsley (*Lomatium concinnum*) and upland vegetation?

#### 4.3.1 Affected Environment

The planning area occurs in a 15 – 18-inch annual precipitation zone. With the general southwest aspect, high clay content, and amount of rock in the soil profile, effective precipitation is lower resulting in plant communities more typically seen on 8 – 12-inch precipitation zones. Thus, they inherently have lower resistance to invasive species invasion and lower resilience to disturbance (Chambers et al., 2013). As a result, vegetation in the lower elevation of the project area is comprised of Gardner saltbush (*Atriplex gardneri*) and shadscale (*Atriplex confertifolia*) with galletta grass (*Pleuraphis jamesii*), Indian ricegrass (*Achnatherum hymenoides*), western wheatgrass (*pascopyrum smithii*), and bottlebrush squirreltail (*Elymus elymoides*) on the lower angle slopes and swales and salina wildrye (*Leymus salinus*) on the steeper slopes. Widely spaced juniper woodlands (*Juniperus osteosperma*) dominate the shallow soils and steep slopes in the lower elevations. The middle and upper elevation deep soils are dominated by Wyoming (*Artemisia tridentata* subsp. *wyomingensis*) and basin big (*Artemisia tridentata* subsp. *tridentata*) sagebrush with dense juniper woodlands dominating the shallow soils, ridge tops, and steep slopes. Numerous native annual and perennial forbs are also present including the BLM sensitive Colorado desert-parsley. Invasive annual species including alyssum (*Alyssum simplex* & *A. desertorum*), cheatgrass (*Bromus tectorum*), jointed goatgrass (*Aegilops cylindrica*), storks bill (*Erodium cicutarium*), annual wheatgrass (*Eremopyrum triticeum*), and burr buttercup (*Ceratocephala testiculata*) are prevalent in the shrublands and open juniper woodlands of the planning area and act to compete with desirable native vegetation and limit plant community resilience. Severe winter concentration by big game has resulted in extremely hedged and highly decadent shrubs that also act to reduce the resilience of plant communities in the planning area.

Numerous unauthorized mountain bike routes, OHV routes, powerline access roads and structure pads, and irrigation ditches have served to fragment much of the vegetation communities on BLM lands (**Table 18**). These disturbances total approximately 13.4 acres or 0.6 percent of the 1,963-acre planning area.



Table 18: Existing Vegetation Disturbances

Existing Disturbances	Miles	Acres
Roads	2.15	2.1
Trails	29.7	7.2
Ditches and powerline pads		4.1
Total Acres		13.4

Colorado Desert-parsley is an early spring perennial herb in the Apiaceae (carrot family) and is only known to occur in Delta, Montrose, and Ouray counties, Colorado. The species is also endemic to the bare adobe soils derived from the Mancos Shale formation found in the valleys of the Uncompahgre and North Fork of the Gunnison valleys. The species occurs on barren ridges, in sagebrush, shadscale, greasewood, Gambel oak, and open canopy juniper woodlands. There are 32 known extant occurrences, many of which have good or excellent viability [Colorado National Heritage Program (CNHP) 2022]. Recreation is believed to be one of the primary threats to the species at this time on private and public lands (Rondeau et al., 2011). Occurrences on private land are also threatened by residential and commercial development. The BLM has managed the species as a sensitive species since 1993 when the US Fish and Wildlife Service found it to not be warranted for protection under the Endangered Species Act. BLM policy is to manage, conserve, and recover species designated as sensitive to avoid the need for protection under the Endangered Species Act.

Survey for Colorado desert-parsley found numerous previously undocumented populations in the salt desert shrub and sagebrush communities in the planning area totaling approximately 45 acres. Single track bike routes have impacted nearly all populations documented in the planning area. To understand the impact of unauthorized routes as well as the alternatives analyzed to Colorado desert-parsley BLM utilized a sampling-based approach to estimate the population size of Colorado desert-parsley within the planning area (Krening et al. 2021). The estimation approach applied plant density estimates from six randomly sampled macroplots to the mapped habitat areas to obtain an estimate of population size of Colorado desert-parsley in the planning area. Based on the sampling, the estimated density is  $\hat{D}=0.0213102$  when applied to the 45-acre project area ( $A=183,359.64 \text{ m}^2$ ) and derives a minimum population estimate of 3,907 plants  $\pm 3,788$  plants (80 percent CI 119, 7,695). This estimate is based on the conservative assumption that the only plants that exist within each mapped subpopulation in the planning area were captured in the associated macroplots. Nowhere is the conservative approach more apparent than the lower confidence level estimate of 119 plants which is well below the number of plants counted in the six microplots totaling 1,578 plants.

#### **4.3.2 Reasonably Foreseeable Environmental Trends**

Reasonably foreseeable environmental trends will be similar to those described in Issue 1, **4.1.2 Reasonably Foreseeable Environmental Trends**. As a result, with continued warming and drying all plant communities in the planning area can be expected to be stressed resulting in continued mortality of perennial plants and declining trends in perennial herbaceous vegetation, increases in invasive annual plants, static trends in shrubs, and increases in trees (Kleinhesselink et al., 2022). Resulting declines in desirable perennial vegetation and increases in invasive annual plants are likely to contribute to decreasing resistance and resilience of all ecological sites in the planning area. Additionally, development of private lands is likely to result in even greater wildlife concentration on the BLM managed lands during winter. The planning area is one of the most severely concentrated properties in the Uncompahgre Field Office as evidenced by the exceptionally severe hedging of all the shrubs in the planning area by wintering big game. BLM and CNHP have no information regarding population level trends for Colorado desert-parsley but based on trends in other perennial plants in the

planning area and region we assume comparable population level declines have occurred over the last 30+ years. With development and formalization of the trail system substantial increases in trail use are expected.

#### ***4.3.3 Other Planned Actions in the Area***

Impacts from foreseeable future vegetation disturbances include the construction of roads, trails, irrigation ditches, rights-of-ways, livestock grazing, vegetation treatments, and recreation as well as the issuance of SRPs for mountain bike, running races, and other events. These actions contribute to the degradation and diminished resiliency of native vegetation communities and are likely to continue.

#### ***4.3.4 Effects Common to All Action Alternatives***

Trail construction and use results in the direct removal of desirable perennial vegetation, provide avenues for invasive plant establishment and proliferation, increased erosion of critical topsoil, and drying of the surrounding surface due to changed hydrology. All these impacts act to diminish and fragment native plant populations which reduces recruitment, seed production, and establishment reducing species richness, diversity, and composition (Honnay & Jacquemyn, 2007). As a result, recruitment does not maintain pace with mortality of perennial plants exacerbating these negative feedback loops well beyond the footprint of the initial disturbance. Indirect impacts from soil runoff and deposition, route widening, and off route use when wet or degraded will result in additional native vegetation removal or degradation.

No alternative implements the 2020 UFO RMP decision CSU-19/SSR-20 for sensitive species plants, which suggests relocation of ground disturbance in special status plant habitat. None of the populations of BLM sensitive Colorado desert-parsley have been or will be avoided by a minimum of 100 meters as the RMP suggests. The juxtaposition of sub-populations of Colorado desert-parsley to existing trails or alternative routes make the stipulation untenable with an already established trail system commensurate with the goals and objectives of the SRMA. However, all alternatives employ site specific relocation out of occupied special status species habitat for trails that are not currently sustainably built, that cannot be maintained within existing footprints, or where erosion cannot be minimized in habitat. Such relocations would site newly constructed trails outside of or directly adjacent to occupied habitat. No newly considered trail would be approved within occupied BLM sensitive plant habitat.

#### ***4.3.5 Effects of Alternative A - No Action***

Numerous unauthorized mountain bike routes and OHV routes have added to the authorized disturbances in the planning area, such as powerline access roads and structure pads, and irrigation ditches. All these disturbances have fragmented much of the vegetation communities on BLM lands (**Table 19**), removed desirable perennial vegetation, and contributed to invasive species proliferation throughout the planning area. These disturbances total approximately 17.0 acres or 0.8 percent of the 1,963-acre planning area.

Table 19: Existing Vegetation Disturbances

Existing Disturbances	Miles	Acres
Roads	2.15	2.1
Trails	29.7	10.8
Ditches and Powerline pads		4.1
Total Acres		17.7

Specifically, 2.9 miles of single-track trail were developed through occupied habitat for Colorado desert-parsley, impacting 43 of the 45 sub-populations mapped during surveys. Trail width through these populations ranged between 7.2 feet and 1.6 feet with an average trail width of 4.3 feet resulting an estimated impact to 1.5 acres (6,015 square meters) of occupied habitat totaling 3.3 percent of the population area in the Jumbo Mountain planning area. Utilizing the population estimate technique described in **Section 4.3.1 Affected Environment** an estimated 128 +/- individual plants have been destroyed from unauthorized trail development. While trail development has resulted in impacts to Colorado desert-parsley individuals there is no evidence to suggest that population level impacts have occurred that could threaten the continued existence of the species within the planning area. Invasive species were observed to be prevalent in all mapped sub-populations as well and it is difficult to conclude what impact invasive species proliferation has had on plant density. While invasive species prevalence and abundance are concerning there is some evidence to suggest that Colorado desert-parsley may be able to persist in an invasive species dominant plant community given the rather high plant densities observed. Additionally, there is some evidence to suggest that minimally disturbed sites that still have viable topsoil present may be able to be recolonized by Colorado desert-parsley as trails previously closed had the species growing in the old trail footprint.

RMZ 1 would allow motorized, mechanized, pedestrian and equestrian use year-round. Under this alternative due to the lack of sustainably built trails and the possibility of motorized use of the trails, trail widths and footprints can be expected to continue to expand perhaps doubling in overall width over the next decade as use of the system continues to grow. This could result in doubling of the existing impacts to desirable vegetation and Colorado desert-parsley over the next decade as many of the existing trails have not been developed in a sustainable manner and lack drainage features, grade reversals, and other erosion control features that have caused the impacts described in **Section 4.1.1 Affected Environment**. These impacts would be most pronounced in RMZ 1 where motorized, mechanized, and horse travel would occur year-round impacting unsustainably built trails the greatest, especially when used in wet conditions in winter months. There is a winter closure for motorized and mechanized use from December 1 to April 15 on all of the existing trails in RMZ 2 limiting travel to foot and horse travel only during winter months. Impacts may be lessened in RMZ 2 where trails are closed seasonally per the UFO RMP to protect big game which would indirectly lessen impacts to native vegetation and Colorado desert-parsley. Such management would have disproportionately greater impacts to the less resilient salt desert vegetation types found in RMZ 1 and to Colorado desert-parsley where 37 of the 45 mapped sub-populations are located.

The adaptive management described in **Section 3.3.1 Adaptive Management Common to All Action Alternatives** under this alternative would not be implemented to minimize further degradation to the BLM sensitive Colorado desert-parsley. Further this alternative does little to help BLM meet sensitive species policy to manage, conserve, and recover species designated as sensitive, in order to avoid the need for protection under the Endangered Species Act, because only after exhaustive intensive management and/or reroute consideration would unsustainably built trails be considered for closure.

#### **4.3.6 Effects of Alternative B – Maximum Resource Protection**

The Maximum Resource Protection Alternative would designate approximately 14.7 miles of existing trails and new or re-routed trails, and close and reclaim approximately 17.1 miles of trails within the planning area. RMZ 1 would allow mechanized, pedestrian, and equestrian use year around. There would be a winter closure for all use from December 1 to April 15 on all the existing trails in RMZ 2 under Alternative B. Under this alternative there would be 6.22 acres less disturbance to upland vegetation resources once reclaimed compared to Alternative A (**Table 20**). This represents a 54 percent reduction in upland vegetation disturbances and the indirect impacts described in **Section 4.3.4 Effects Common to All Action Alternatives**. Reclaiming routes with

minimal soil would likely occur as a passive restoration with desirable perennial plants reoccupying the disturbances in 5 – 10 years assuming invasive plants do not create excessive competition. For areas that will be reclaimed where invasive species are dominant or excessive erosion has resulted in limited soil potential, intensive reclamation utilizing design features 9 and 10 may require multiple applications to stabilize soils and get desirable vegetation established; this could require 5 – 15+ years to achieve desired conditions. For the remaining 5.35 acres (14.7 miles of trail) of permanently disturbed vegetation the impacts would be like those described in **Section 4.3.4 Effects Common to All** Action Alternatives.

Table 20: Route Disturbance in Alternative B

Alt. B	Miles	Acres	Final Acres Disturbed	Final Acres Reclaimed
RMZ 1	6.1	2.22	5.35	6.22
RMZ 2	8.6	3.13		
Reclaimed	17.1	6.22		
Colorado Desert-parsley Habitat				
RMZ 1	0.14	0.07	0.55	0.93
Reclaimed	0.87	0.45		
RMZ 2	0.93	0.48		
Reclaimed	0.93	0.48		

In Colorado desert-parsley habitat this alternative would intensively manage 0.14 miles of trail in RMZ 1 and 0.93 miles of trail in RMZ 2 (**Table 20**) to maintain the existing footprint of the trail while also minimizing erosion into occupied habitat. In cases where trail maintenance cannot achieve desired trail use compliance, barriers may be installed to help ensure trail use remains within the existing footprint. In extreme cases there may be a need to close and reclaim portions of these routes in favor of a more sustainable route that would be designed to avoid occupied Colorado desert-parsley habitat or placed adjacent to habitat utilizing the reroute areas described in **Section 3.3.5 Reroutes**. Considering the adaptive management plan, trails through occupied habitat in RMZ 1 represent the greatest amount of trail that may need to be either rerouted, intensively maintained, or closed to minimize further degradation to the BLM sensitive Colorado desert-parsley due to year-round trail use by all approved uses. This aspect of the alternative makes it more likely than not that after intensive trail management and the associated impacts to Colorado desert-parsley that trails will need to be rerouted or closed utilizing the reroute zones described in **Section 3.3.5 Reroutes**. Such impacts are not anticipated on 0.93 miles (0.48 acres) of trails within occupied Colorado desert-parsley habitat in RMZ 2 as the trails would be closed to all trail uses from December 1 to April 15 when trails are most at risk from damage by use when wet. These trails are likely to require less intensive management and remain sustainable for substantially longer periods of time and thus result in less direct and indirect impacts to the BLM sensitive Colorado desert-parsley.

This alternative would also close and reclaim 0.87 miles (0.45 acres) of occupied Colorado desert-parsley habitat in RMZ 1 and 0.93 miles (0.48 acres) in RMZ 2 resulting in a 63 percent reduction in impacted Colorado desert-parsley habitat compared to Alternative A. There is evidence to suggest that Colorado desert-parsley can passively reclaim mild disturbances suggesting that the planning area could increase by an estimated 81-160 plants over current population estimates maximizing BLM’s policy to manage, conserve, and recover species designated as sensitive, to avoid the need for protection under the Endangered Species Act.

#### **4.3.7 Effects of Alternative C – Maximum Access**

The Maximum Access Alternative would designate approximately 27.5 miles of existing trails and new or re-routed trails, and close and reclaim approximately 4.3 miles of trails within the planning area. The routes

identified for closure would be replaced by new routes of equal distance designed to enhance recreation experiences and reduce only the most detrimental resource impacts. RMZ 1 would allow mechanized, pedestrian, and equestrian use year around. There is a winter closure for motorized and mechanized use from December 1 to April 15 on all the existing trails in RMZ 2 limiting travel. Under this alternative there would be 1.56 acres of disturbance to upland vegetation resources reclaimed however an equal amount of new route and acres of disturbance would be built (**Table 21**) in a more sustainable manner. This represents no reduction in upland vegetation disturbances and the indirect impacts described in **Section 4.3.4 Effects Common to All Action Alternatives** would be the same as Alternative C. This represents a 12 percent increase in vegetation disturbance to the planning area until reclamation can be achieved in 5-10 years post reclamation. Reclaimed routes would utilize design features 9 and 10 and may require multiple applications to stabilize soils and get desirable vegetation established and achieve desired conditions. For the remaining 11.56 acres (31.8 miles) of permanently disturbed vegetation the impacts would be like those described in **Section 4.3.4 Effects Common to All Action Alternatives**

Table 21: Route Disturbance in Alternative C

Alt. C	Miles	Acres	Final Acres Disturbed	Final Acres Reclaimed
RMZ 1	9.6	3.49	11.56	1.56
RMZ 2	17.9	6.51		
New Reroute	4.3	1.56		
Reclaimed	4.3	1.56		
Colorado Desert-parsley Habitat				
RMZ 1	0.94	0.49	1.34	0.15
Reclaimed	0.07	0.04		
RMZ 2	1.64	0.85		
Reclaimed	0.22	0.12		

In Colorado desert-parsley habitat this alternative would intensively manage 0.94 miles of trail in RMZ 1 and 1.64 miles of trail in RMZ 2 (**Table 21**) to maintain the existing footprint of the trail while also minimizing erosion into occupied habitat. In cases where trail maintenance cannot achieve desired trail use compliance, barriers may be installed to help ensure trail use remains within the existing footprint. In extreme cases there may be a need to close and reclaim portions of these routes in favor of a more sustainable route that would be designed to avoid occupied Colorado desert-parsley habitat or placed adjacent to habitat utilizing the reroute areas described in **Section 3.3.5 Reroutes**. The adaptive management plan trails through occupied habitat in RMZ 1 represent the greatest amount of trail that may need to be either rerouted, intensively maintained, or closed to minimize further degradation to the BLM sensitive Colorado desert-parsley due to year-round trail use by all approved uses. This aspect of the alternative makes it more likely than not that after exhaustive intense trail management and the associated impacts to Colorado desert-parsley that trails would need to be rerouted or closed utilizing the reroute zones described in **Section 3.3.5 Reroutes**. Such impacts are slightly diminished on 1.64 miles (0.85 acres) of trails within occupied Colorado desert-parsley habitat in RMZ 2 as the trails would be closed to mechanized uses from December 1 to April 15 when trails are most at risk from damage by use when wet. However, horse use when trails are wet can be as damaging as motorized and mechanized use and are likely to require more intensive management to remain sustainable and minimize impacts, resulting in similar direct and indirect impacts to the BLM sensitive Colorado desert-parsley as those described in RMZ 1 under this alternative.

This alternative would also close and reclaim 0.07 miles (0.04 acres) of occupied Colorado desert-parsley habitat in RMZ 1 and 0.22 miles (0.12 acres) in RMZ 2 resulting in a 1 percent reduction in impacted Colorado desert-parsley habitat compared to Alternative A. Alternative C achieves essentially the same outcome for Colorado desert-parsley as Alternative A.

#### **4.3.8 Effects of Alternative D – Proposed Action**

The proposed action is for BLM to designate approximately 24.4 miles of existing trails and up to 10 miles of new or re-routed trails, and to close and reclaim approximately 7.4 miles of trails within the planning area. The routes identified for closure would be replaced by new routes of equal distance designed to enhance recreation experiences and reduce numerous resource impacts. An additional 10 miles of new routes are proposed as well resulting in up to 34.4 miles of trails at full buildout. The effects described in **Section 4.3.4 Effects Common to All** Action Alternatives would occur on 15.2 acres (Table 22), however more of the trail system would be built in a sustainable manner reducing route widening, offsite erosion, and eliminating user-created routes which receive little to no use.

Table 22: Route Disturbance in Alternative D

Alt. C	Miles	Acres	Final Acres Disturbed	Final Acres Reclaimed
RMZ 1	8.2	2.98	15.20	2.69
RMZ 2	16.2	5.89		
New Reroute	7.4	2.69		
Reclaimed	7.4	2.69		
New Routes	10.0	3.64		
Colorado desert-parsley Habitat				
RMZ 1	0.92	0.48	1.16	0.33
Reclaimed	0.09	0.05		
RMZ 2	1.33	0.69		
Reclaimed	0.54	0.28		
New Routes	0	0		

In Colorado desert-parsley habitat this alternative would intensively manage 0.92 miles of trail in RMZ 1 and 1.33 miles of trail in RMZ 2 (Table 22) to maintain the existing footprint of the trail while also minimizing erosion into occupied habitat. In cases where trail maintenance cannot achieve desired trail use compliance, barriers may be installed to help ensure trail use remains within the existing footprint. In extreme cases there may be a need to close and reclaim portions of these routes in favor of a more sustainable route that would be designed to avoid occupied Colorado desert-parsley habitat or placed adjacent to habitat utilizing the reroute areas described in **Section 3.3.5 Reroutes**. Considering the adaptive management plan trails through occupied habitat in RMZ 1 represent the greatest amount of trail that may need to be either rerouted, intensively maintained, or closed to minimize further degradation to the BLM sensitive Colorado desert-parsley due to year-round trail use by all approved uses. This aspect of the alternative makes it more likely than not that after exhaustive intense trail management and the associated impacts to Colorado desert-parsley that trails will need to be rerouted or closed utilizing the reroute zones described in **Section 3.3.5 Reroutes**. Such impacts are slightly diminished on 1.33 miles (0.69 acres) of trails within occupied Colorado desert-parsley habitat in RMZ 2 as the trails would be closed to mechanized uses from December 1 to April 15 when trails are most at risk from damage by use when wet. However, horse use when trails are wet can be as damaging as motorized and



mechanized use and are likely to require more intensive management to remain sustainable and minimize impacts, resulting in similar direct and indirect impacts to the BLM sensitive Colorado desert-parsley as those described in RMZ 1 under this alternative. None of the proposed 10 miles of new route would be built in Colorado desert-parsley thus no impacts to the species from additional route construction and use is anticipated.

This alternative would also close and reclaim 0.09 miles (0.05 acres) of occupied Colorado desert-parsley habitat in RMZ 1 and 0.54 miles (0.28 acres) in RMZ 2 resulting in a 2 percent reduction in impacted Colorado desert-parsley habitat compared to Alternative A, and 65 percent less reclaimed habitat for Colorado desert-parsley than Alternative B.

#### **4.4 ISSUE STATEMENT #4**

How will the nesting Golden Eagle, Pinyon Jay colony and other migratory birds present in the area be impacted by the proposed action?

##### ***4.4.1 Affected Environment***

The Jumbo Mountain SRMA planning area ranges in elevation from 5,800 to 7,000 feet and is dominated by open pinyon juniper woodlands of various age classes, open desert scrub-shrub, adobe badlands and mixed mountain shrublands. The planning area supports habitat for various migratory birds and raptors. A large cliff band occurs along the eastern boundary of the SRMA provides suitable habitat for cliff-nesting raptors.

The analysis area for migratory birds includes the planning area (1,900 acres) and 0.25-mile buffer around the SRMA boundary. This analysis area encompasses all existing trails, and any proposed future reroutes or proposed trails. Avian surveys were conducted in the analysis area in 2022 and an active Pinyon Jay colony, active Golden Eagle nest, and a Northern Saw whet owl territory were identified. Golden Eagle was the only confirmed BLM sensitive species present in the analysis area. Golden Eagles often maintain multiple alternate nests within their territories and an alternate nest was located approximately 50 meters from the active nest. The Pinyon Jay colony is 508 acres total and is present on the south side of the SRMA and located in both RMZ 1 (134 acres or 26 percent of the mapped colony) and RMZ 2 (374 acres or 74 percent of the mapped colony).

Birds of Conservation Concern identified in the area include Pinyon Jay and Virginia's warbler. Birds of Conservation Concern are species identified as potential to become candidates for listing under the Endangered Species Act without additional conservation action. Many other non-special status migratory birds were observed in the planning area during surveys and likely breed in the vicinity.

##### ***4.4.2 Reasonably Foreseeable Environmental Trends***

Reasonably foreseeable environmental trends in the project area that may impact migratory birds, raptors or migratory bird habitat include general mortality to pinyon and juniper trees from drought or insect mortality. The impact of the action will add incrementally to the generalized disturbance of migratory birds in the vicinity of the project area. However, many of the trails have already been constructed so the disturbance to migratory birds or modification to habitat is already occurring.

##### ***4.4.3 Other Planned Actions in the Area***

Impacts from past and present disturbances to migratory birds and their habitat include livestock grazing, road or trail construction, vegetation treatments and recreation. These activities have modified and continue to modify migratory bird habitat and can contribute to reduced habitat quality and quantity of habitat for nesting migratory birds.

#### ***4.4.4 Effects Common to All Alternatives***

Impacts to migratory bird habitat are well documented in literature. Trails create and increase amount of edge habitat which can be associated with a reduction in breeding success (Lafferty et al., 2006) and influence how much time species spend at nests (Verhulst et al., 2001). Reducing time at a nest can increase opportunities for nest predation from common nest predators such as corvids. Available nesting habitat can be decreased when migratory birds don't nest by trails. Miller et al. (1998) found that certain bird species were less likely to nest by a trail and that species composition and abundance was altered.

RMZ 1 does not have a seasonal travel limitation and there are typically snow free trails during this sensitive nesting time for Pinyon Jay. Indirect impacts to nesting Pinyon Jay may continue to occur in RMZ 1 and/or RMZ 2 from human presence. Indirect impacts may occur such as increased nest predation or nest abandonment. Human presence can increase occurrence of predators such as common ravens (Walker et al. 2015), which are common predators of nestling Pinyon Jays. Human presence, such as repeated trail use, has been shown to affect both avian abundance and richness (Riffell et al. 1996). A reduction in reproductive output was observed for Pinyon Jay colonies located near urban interfaces in Montrose, Colorado (Seglund et al. 2021) and this finding could suggest that human activity, such as target shooting, trash dumping or recreational pressure from hikers may contribute to an interruption in nesting.

Direct impacts may continue to occur from human presence in the colony area during the sensitive time for nest establishment (February – March). February – March is considered a sensitive time for Pinyon Jay nest establishment as these are the months when Pinyon Jays are most likely to abandon nests (Seglund personal comm. 2022). The seasonal travel limitation for motorized and mechanized travel from December 1 to April 15 for big game winter range protection in RMZ 2 per the 2020 UFO RMP may minimize some impacts to nesting Pinyon Jay during the sensitive time for nest establishment. Additionally, human use (foot and horse) is often limited during this time because of snow cover or muddy trails.

A net change to the quantity or measure of impacts to migratory birds among Alternatives may occur from differences in authorized trail mileages, reroutes, seasonal travel limitations for raptors, and in Alternative B the addition of a pedestrian and equestrian travel limitation in RMZ 2.

Design features will be applied in all action alternatives (B, C and D, see **3.3.3 Resource Specific Design Features Common to All Action Alternatives**) which minimize impacts to migratory bird habitat and reduce disturbance by restricting surface disturbing activities and vegetation removal between February 14 to July 15. This time frame provides comprehensive protection for early nesting Pinyon Jays and other migratory birds that may nest in the project area.

#### ***4.4.5 Effects of Alternative A - No Action***

Alternative A does not include a seasonal limitation for Golden Eagle protection during December 15 to July 15, the nesting time for Golden Eagle. Therefore, under this alternative there would be continued disturbance to the nesting Golden Eagle from human presence in proximity to the active nest. Golden Eagles are protected by the Migratory Bird Treaty Act and the United States Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c), which states that disturbances causing nest failure can be considered illegal “take” of the species. Alternative A is not in compliance with the 2020 UFO RMP, which provides protections for active raptor nests, the Migratory Bird Treaty Act or the U.S. Bald and Golden Eagle Protection Act.

The potential impacts from Alternative A on the nesting Golden Eagle may include impacts to nest survival. The nest is located on the northeast side of the SRMA in RMZ 2 where trails are typically inaccessible from



snow cover until late March or early April. The trails in RMZ 2 are seasonally closed to motorized and mechanized use from December 1 to April 15 but are open to hiking and horse travel. Golden Eagles begin courtship and breed in early February and can begin incubating eggs in late-February to early March. This timing may be problematic for the nesting pair because when courtship, nest site selection and breeding occurs, human presence and disturbance is limited in proximity to the nest because of the seasonal winter limitation for big game (December 1 to April 15) and further limited from human intrusion by snow covered and inaccessible trails. Once the seasonal winter limitation for big game ends and the trails are passable, human use and presence begins on the trails within 120 meters of the nest and within a line of sight to the Golden Eagle nest at approximately the time that eggs are hatching in mid-April. Spaul and Heath (2016) found that Golden Eagle nest survival was negatively associated with off-road vehicle use, pedestrian and other nonmotorized recreation. Adult nest attendance, which is closely tied to nest survival, was negatively associated with recreational user presence (Spaul and Heath, 2016). Adult nest attendance includes feeding and providing warmth to nestling eagles. Human presence during the brood rearing time may cause adult eagles to flush from nests, increasing the probability of exposure and/or reducing the opportunities for feeding (Spaul and Heath, 2017). **See Error! Reference source not found.** for estimated species phenology. The Golden Eagle nest in the planning area, or the nearby alternate nest, has been active for at least the last decade. The nest was active March to April 2022 but appeared to fail in May 2022. The cause of nest failure is unknown.

The cumulative effects of implementing Alternative A may have population level effects on Golden Eagle because a reduction in fitness of some individuals within a population could lead to population level effects such as reduced population size, increased probability of local extirpation or changes in geographic distribution (Miller et al. 2020).

Table 23: Estimated Species Phenology for Nesting Golden Eagle in Jumbo Mountain SRMA

Month	Activity	RMZ 2 Seasonal Use Under Alternative A
December	Arrive on territory and nest site selection	Closed to motorized mechanized Dec 1- April 15
January-February	Courtship	Closed to motorized mechanized Dec 1- April 15
March	Incubation	Closed to motorized mechanized Dec 1- April 15
April	Hatch	Open to horse, hike, mechanized April 15
May	Brooding	Open to horse, hike, mechanized April 15
June	Fledging	Open to horse, hike, mechanized April 15
July	Post-fledging	Open to horse, hike, mechanized April 15

Impacts to migratory bird habitat are well documented in the literature. Trails create and increase amount of edge habitat which can be associated with a reduction in breeding success (Lafferty et al. 2006) and influence how much time is spent at a nest (Verhulst et al., 2001). Spending less time at a nest can increase opportunities for nest predation from common nest predators such as corvids (Gutzwiller et al. 2002). Available nesting habitat can be decreased when migratory birds don't nest by trails. Miller et al. (1998) found that certain species were less likely to nest by trails and that species composition and abundance was altered nearby trails.

Because no management would be applied under this alternative, the impacts to migratory birds, raptors and Birds of Conservation Concern would be the highest of all alternatives. No trails would be closed under Alternative A which would not reduce edge habitat or reduce disturbance to migratory birds. Under Alternative A, there would not be protection of migratory birds to the extent required by the Migratory Bird Treaty Act of 1918 and the U.S. Bald and Golden Eagle Protection Act.

#### ***4.4.6 Effects of Alternative B – Maximum Resource Protection***

Under Alternative B the impacts to the nesting Golden Eagle described **Section 4.4.5 Effects of Alternative A - No Action** will be eliminated by closing trails within approximately 0.5 miles of the active nest. The spatial buffer is consistent with the 2020 UFO RMP protection for active Golden Eagle nest sites from surface use, surface disturbing and disruptive activities. If the known adjacent, alternate nest was utilized, the 0.5-mile spatial buffer around the current active nest would be sufficient for protection of the alternate nest.

Under Alternative B the impacts to nesting Pinyon Jay described in **Section 4.4.4 Effects Common to All Alternatives** will be minimized because some of the trails that directly overlap with the nesting Pinyon Jay colony are closed to all uses from December 1 to April 15 for protection of wintering big game in RMZ 2 under this alternative. This alternative would provide the most protection for the Pinyon Jay colony with 74 percent or 374 acres of the colony gaining protection, because only RMZ 1 would be open year-round to recreation, and RMZ 2 would be closed to all trail uses from December 1 to April 15.

With BLM management, the impacts to migratory birds, raptors and birds of conservation concern will be the lowest of all alternatives under Alternative B. This alternative would improve migratory bird habitat through a reduction in trail miles, closing 17.1 miles of trail. Closing trails improves migratory bird habitat by reducing edge habitat and reducing disturbance. Under Alternative B, there would be protection of migratory birds to the extent required by the Migratory Bird Treaty Act of 1918 and the Bald and Golden Eagle Protection Act.

#### ***4.4.7 Effects of Alternative C – Maximum Access***

Under Alternative C the impacts to the nesting Golden Eagle described in **Section 4.4.5 Effects of Alternative A - No Action** will be minimized by implementing a seasonal limitation from December 15 to July 15 on the trails within 0.5 miles of the active nest. The spatial and temporal buffer is consistent with the 2020 UFO RMP protection for active Golden Eagle nest sites from surface use, surface disturbing and disruptive activities. If the known adjacent, alternate nest was utilized, the 0.5-mile spatial buffer around the current active nest would be sufficient for protection of the alternate nest.

With BLM management, the impacts to migratory birds, raptors and birds of conservation concern will be limited but not eliminated by Alternative C. This alternative would improve migratory bird habitat through a reduction in trail miles, closing 4.3 miles of trail. Closing trails improves migratory bird habitat by reducing edge habitat and reducing disturbance. Under Alternative C, there would be protection of migratory birds to the extent required by the Migratory Bird Treaty Act of 1918 and the Bald and Golden Eagle Protection Act.

#### ***4.4.8 Effects of Alternative D – Proposed Action***

Under Alternative D the impacts to the nesting Golden Eagle described in **Section 4.4.5 Effects of Alternative A - No Action** will be minimized by implementing a seasonal limitation from December 15 to July 15 on the trails within 0.5 miles of the active nest. The spatial and temporal buffer is consistent with the 2020 UFO RMP recommendation for protecting active Golden Eagle nest sites from surface use, surface disturbing and

disruptive activities. If the known adjacent, alternate nest was utilized, the 0.5-mile spatial buffer around the current active nest would be sufficient for protection of the alternate nest.

With BLM management, the impacts to migratory birds, raptors and birds of conservation concern will be limited but not eliminated by Alternative D. Alternative D would close 7.4 miles of trail but proposes up to 10 miles of new trails resulting in a net increase of 2.6 miles. Edge habitat will increase along 2.6 miles of trail under Alternative D which is greater than Alternative A (0 miles or baseline disturbance), Alternative C (reduction of 4.3 miles) and Alternative B (reduction of 17.1). Under Alternative D, there would be protection of migratory birds to the extent required by the Migratory Bird Treaty Act of 1918 and the Bald and Golden Eagle Protection Act.

## **4.5 ISSUE STATEMENT #5**

How would big game crucial winter habitat, and wintering big game be impacted by the proposed action?

### ***4.5.1 Affected Environment***

The planning area ranges in elevation from 5,800 to 7,000 feet and is dominated by open pinyon juniper woodlands of various age classes, open desert scrub-shrub, adobe badlands and mixed mountain shrublands. The planning area supports habitat for mule deer and elk. The entire planning area (1,900 acres) is priority big game habitat comprised of overlapping mule deer severe winter range, mule deer concentration area and elk severe winter range (**Table 24**). Winter concentration areas are areas where high densities of mule deer or elk are found during the winter season. Severe winter ranges are typically lower elevations where deer tend to concentrate even further, to avoid deep snow or exposure to extreme weather cycles. Collectively, these habitats will be referred to as big game crucial winter habitat. Mule deer may be found year-round in the planning area, while elk are less common.

The planning area is located within CPW Game Management Unit (GMU) 53. GMU 53 is part of Data Analysis Unit (DAU) D-20 for mule deer and DAU E-05 for elk. Big game populations are managed to achieve population and sex ratio objectives at the DAU level. A DAU is a geographic area that represents the year-round range of a big game herd and is comprised of all seasonal ranges of a specific herd and each DAU may contain one or more GMU which are management units. GMUs are utilized to distribute both hunters and harvest across a herd or geographic area. Across the west and in portions of western Colorado, mule deer herds have declined significantly. Deer populations can fluctuate naturally in response to changing environmental conditions, however a decline in the state's largest deer herd is atypical and has reduced may herds across the state below population objectives (CPW, 2014).

The D-20 herd population objective is 7,500 to 9,500 deer and the herd estimate for 2020 and 2021 has been approximately 7,840 the past two years which is up from 7,440 in 2019. The D-20 mule deer herd is within the herd population objective, but at the low end of the middle quartile of the population objective.

The E-05 elk herd population objective is 7,800 to 8,800 elk and the herd estimate for 2020 and 2021 has been 8,530 and 8,476 respectively indicating that E-05 elk herd is within the herd population objective and at approximately the upper quartile of the population objective (Blecha, 2018). Historically elk have used the Jumbo Mountain SRMA and utilized the area for seasonal movements. Since the development of high-density trails and increased recreation, elk do not use the Jumbo Mountain SRMA. Preliminary collar data suggests that elk avoid the SRMA and travel north of the SRMA (Taylor pers. comm., 2022).

Table 24: Big Game Habitat in Jumbo SRMA

Priority big game habitat*	SRMA Zone	Area (acres)	% of priority habitat in RMZ	Acres of priority habitat in GMU 53*	% of priority habitat impacted in GMU 53
Mule Deer Severe Winter Range	RMZ 1	291	100%	55,250	2.7%
Mule Deer Severe Winter Range	RMZ 2	1200	91%		
Mule Deer Winter Concentration Area	RMZ 1	274	94%	48,455	3.3%
Mule Deer Winter Concentration Area	RMZ 2	1315	100%		
Elk Severe Winter Range	RMZ 1	291	100%	58,270	2.8%
Elk Severe Winter Range	RMZ 2	1313	100%		
Elk Winter Concentration Area	RMZ 1	241	83%	64,865	0.9%
Elk Winter Concentration Area	RMZ 2	327	25%		

\*Mapped habitats may overlap with one another

#### ***4.5.2 Reasonably Foreseeable Environmental Trends***

Reasonably foreseeable environmental trends in the project area that may impact wintering big game include increases in recreational use at Jumbo Mountain SRMA from implementing travel management. Increases to human development and land use changes on lower and mid elevation deer winter range in the North Fork valley are also expected. The Western Slope of Colorado is expected to experience the highest growth rates in Colorado and the projected population growth across the state is expected to grow over 20 percent between 2020 and 2040 (Aldo, 2017). Given this projection, it can be assumed that increases to human development and land use change will occur, coupled with an increase in human use in the proposed action area. Increases in population growth may impact development of private lands resulting in increased wildlife concentration on BLM managed lands during the winter. As highlighted in **Section 4.3.2 Reasonably Foreseeable Environmental Trends**, the planning area is currently concentrated with wintering big game, as evidenced by severe hedging of all the shrubs in the planning area, and this trend will likely continue.

Chronic Wasting Disease (CWD) is a fatal neurological disease that occurs in mule deer and elk. CWD has been detected in the adjacent GMU (521) and if it's not already present in GMU 53 and the North Fork Valley, it will likely spread given past trends throughout Colorado and North America (Phillips, 2018).

#### ***4.5.3 Other Planned Actions in the Area***

Impacts from past and present disturbances to wintering big game and their habitat include livestock grazing, road or trail construction, vegetation treatments and recreation. These activities have modified and continue to modify big game habitat and can contribute to reduced habitat quality and quantity of available habitat for wintering big game.

#### ***4.5.4 Effects Common to All Alternatives***

Continued impacts to wintering big game may occur from a reduced big game habitat functionality through human presence or direct disturbance and displacement from habitat by avoidance of human activities (Larson et al 2016). Recreation on public lands can lead to reduced habitat quality from human activity with individuals or populations shifting into areas of lower quality habitat to avoid affected areas (Sawyer et al., 2009). Outdoor recreation, such as hiking, biking, or horseback riding, has the potential to disrupt deer and elk. Deer survival and reproductive potential is directly tied to their overwinter physiological status (Bergman, 2014). During the winter months, deer and elk can be negatively impacted from these disruptions as they are energetically stressed from reduced forage quality and the cold winter conditions. Reduced habitat functionality coupled with direct disturbance can lead to effects on both individual animals and populations which may impact winter survival and reproduction and lead to displacement into marginal habitat (Miller et al. 2001).

Taylor and Knight (2004) did not detect a difference in flight disturbance between mountain bikes or hikers and documented a 70 percent flight probability for mule deer within 100 meters of a biker or hiker on a trail. In Colorado, mule deer showed reduced activity within 66 meters of trails where dogs were prohibited, but within 100 meters of trails where dogs were allowed (Miller et al. 2001). Naylor (2009) demonstrated that elk can be affected by off-road recreation and avoid areas with high densities of trails. Given these flight probabilities and expected responses by big game, all alternatives are assumed to result in some level of response from big game and lead to on-going human disturbance during the critical times of year.

The motorized and mechanized seasonal travel limitation for big game winter habitat in RMZ 2 is an existing land use decision per the 2020 UFO RMP. A net change to impacts between Alternatives may occur from differences in authorized trail mileages, reroutes, seasonal travel limitations for raptors, and in Alternative B the addition of a pedestrian and equestrian travel limitation in RMZ 2. Travel limitations for motorized and mechanized use reduce disruption of wintering big game. The net change (positive or negative) in existing disturbance will be quantified for each action alternative (B, C, D) in contrast to Alternative A, the baseline.

To analyze impacts to habitat functionality for wintering mule deer and elk, a 100-meter buffer is utilized around trails to estimate the scale of impact to wintering big game. The entire planning area (1,900 acres) is priority big game habitat comprised of overlapping mule deer severe winter range, mule deer concentration area, elk severe winter range and elk winter concentration area, the analysis will quantify impacts to big game winter range collectively in acres. All areas within 100 meters of the trails are assumed to be functionally unsuitable for wintering big game given the flight responses and avoidance documented in Taylor and Knight (2004) and supported by Naylor (2008). The topography, cover or proximity to other routes may have an impact on habitat suitability for big game but the 100-meter buffer provides a conservative buffer and objective metric to measure trail use influences.

#### ***4.5.5 Effects of Alternative A – No Action***

Using a 100-meter buffer around all trails (see Appendix A Map 8), 1,305 acres or approximately 1.36 percent of big game crucial winter habitat will continue to experience impacted habitat functionality and disturbance or displacement from habitat by avoidance of human activities in GMU 53 as described in ***Section 4.5.4 Effects***

***Common to All Alternatives.*** GMU 53 is approximately 253,700 acres of which approximately 95,870 acres contain at least one layer of big game crucial winter habitat analyzed under this alternative. Existing impacts to wintering big game are quantified across both RMZ 1 and RMZ 2 as research suggests that big game does not differentiate between mountain bikes or hikers (Taylor and Knight, 2004).

#### ***4.5.6 Effects of Alternative B – Maximum Resource Protection***

Using a 100-meter buffer around all trails (see Appendix A Map 9), approximately 314 acres of big game crucial winter habitat will continue to experience impacted habitat functionality and potential for animals to be disturbed or displaced by human activities. Compared to the baseline disturbance from Alternative A (1,305 acres of big game crucial winter habitat), Alternative B reduces disturbance to approximately 991 acres of habitat. GMU 53 is approximately 253,700 acres of which approximately 95,870 acres contain at least one layer of mapped big game crucial winter habitat analyzed under this alternative. Alternative B represents an improvement over Alternative A by reserving RMZ 2 for big game winter range functionality and reducing the percentage of acres of big game winter range impacted by human use and disturbance across the GMU by approximately 1.0 percent of mapped big game crucial winter habitat.

#### ***4.5.7 Effects of Alternative C – Maximum Access***

Using a 100-meter buffer around all trails (see Appendix A Map 10), open under Alternative C and proposed reroute zones, approximately 1226 acres of big game crucial winter habitat will continue to experience impacted habitat functionality and potential for animals to be disturbed or displaced by human activities. GMU 53 is approximately 253,700 acres of which approximately 95,870 acres contain at least one layer of mapped big game crucial winter habitat. The trails that are seasonally limited for protection of the Golden eagle nest December 15- July 15 under this alternative are assumed to benefit wintering big game by limiting human presence on the eastern portion of the SRMA during these dates. Alternative C improves habitat functionality for big game and limits human activities on approximately 80 acres.

#### ***4.5.8 Effects of Alternative D – Proposed Action***

Under Alternative D, the BLM would designate approximately 24.4 miles of existing trails and new or re-routed trails, and to close and reclaim approximately 7.4 miles of trails within the planning area. Human use and presence would be expected to continue or exceed current levels.

Using a 100-meter buffer around all trails (see Appendix A Map 11) open under Alternative D and proposed reroute zones, 1225 acres of big game crucial winter habitat would continue to experience impacted habitat functionality and potential for animals to be disturbed or displaced by human activities. Alternative D proposes 10 additional trail miles. Specific acres related to big game crucial winter habitat cannot be calculated for the additional trails because the trail alignment and locations are not identified. Trails and buffers for calculating habitat loss map overlap with other buffers or trails already accounted for in the 1225 acres. Therefore, we assume no overlap with existing buffers (i.e. a straight line trail that doesn't overlap with other trails or trail buffers calculated) would result in up to 800 acres of potentially new disturbance. Under Alternative D approximately 2025 acres of big game crucial winter habitat would experience impacted habitat functionality. This alternative represents an increase in disturbance to wintering big game over all alternatives and over the baseline disturbance from existing trails (Alternative A 1,305 acres).

Under this alternative e-bikes are proposed. Research suggests that traveling longer distances is a motivation for e-bike users and that e-bikes enable users to travel further than what may have been possible for users on a traditional bike (MacArthur and Person 2014, Perry and Casey, 2020). If e-bikes enable users to travel longer

distances, e-Bikes may increase the opportunity for wintering big game to be disturbed in RMZ 1 during the winter months.

#### ***4.5.9 Summary of Impacts Across the Alternatives***

**Table 25** below summarizes the change in existing disturbance to wintering big game across all alternatives.

Table 25: Summary of Impacts to Big Game Winter Habitat

Alternative	Change in existing disturbance to wintering big game	Percent increased/decreased disturbance across GMU 53 to big game crucial winter habitat
A	No net increase or decrease	Baseline of 1.36% existing disturbance from current condition
B	Decreased by 991 acres	Reduction of 1.0%
C	Decreased by 80 acres	Reduction of 0.08%
D	Increased by 720 acres	Increase of 0.8%

## **4.6 ISSUE STATEMENT #6**

*How would mobilization of salt and selenium be impacted by trail maintenance and construction?*

### ***4.6.1 Affected Environment***

The average annual precipitation spans from 15 – 18 inches and the planning area is located on soils derived from Mancos Shale. Soils located in the Mancos Shale typically have higher runoff potential and a greater likelihood of transporting elevated concentrations of salt and selenium. A brief discussion of salt and selenium and the impaired stream segments in the planning area follows.

#### ***Selenium***

Selenium is a naturally occurring soluble trace metal found in the marine sediments of the Mancos Shale. Selenium can be easily mobilized by applying irrigation water to soils derived from Mancos Shale or from surface disturbing activities on Mancos Shale, and delivered to nearby waterways by irrigation return flow, groundwater, or overland flow. Once in the waterways, selenium can move through the aquatic environment, bio-accumulate in organisms and potentially reach toxic levels (Lemly, 2002). In 1997, the Colorado State Water Control Commission revised the chronic aquatic-life criterion for dissolved selenium from 17 µg/L to 4.6 µg/L. The Selenium Task Force was created soon after to address selenium issues. The group is comprised of private, local, state, and federal agencies including the BLM. As required by the Clean Water Act and the 303(d) listing, the Colorado Water Quality Control Division released the Total Maximum Daily Load (TMDL) in 2009 for the Gunnison River and tributaries and the Uncompahgre River and tributaries. This project is within the contributing area covered by the TMDL. Remediation strategies are implemented in part by the Selenium Task Force as well as the Selenium Management Program administered by the Bureau of Reclamation.

#### ***Salinity***

Salts are another naturally occurring component of the sedimentary formations in the soils in the Jumbo Mountain area. The soluble mineral content of the Mancos Shale can be as high as 20 percent but is typically more like 6 percent, and the major mineral is typically gypsum. Salts are mobilized by both surface water and

groundwater. Mean annual salinity load at the Colorado/Utah state line in the Colorado River is 2.89 million tons. In a study reviewing the salinity trends in the Colorado River from 1986–2003, the contribution from the Gunnison basin was found to be 38 percent or a little over 1 million tons annually (Leib and Bauch, 2008). The Colorado River Basin Salinity Control Act passed in 1974 and amended in 1984, directs the BLM to minimize salt contributions to the Colorado River system from BLM administered lands.

Table 26 below lists the impaired stream segments downstream from the project area as defined by the Colorado Department of Public Health and Environment in Regulation 93. The 303(d) list are those waters for which technology based effluent limitation and other required controls are not stringent enough to implement water quality standards. The Monitoring and Evaluation list are those water bodies where there is reason to suspect water quality problems, but there is uncertainty due to low sample size or unknown sources of impairment (CDPHE, 2021).

Table 26: 303(d) Listed Stream Segments in the Planning Area

Segment	Impairment
COGULG01 1. Mainstem of the Gunnison River from the outlet of Crystal Reservoir to Highway 65	Selenium
COGUNF03 3. Mainstem of North Fork of the Gunnison River from the Black Bridge (41.75 Drive) above Paonia to the confluence with the Gunnison River	Manganese (D) Temperature

The North Fork Gunnison River was listed as non-attainment of the aquatic life use-based chronic selenium standard until 2021. The Colorado River Water Conservation District provided evidence that the standard is, in fact, attained at several locations within this segment. So, beginning in 2021 the North Fork of the Gunnison River was de-listed and the only portion of the segment in non-attainment is Cottonwood Creek. The Selenium 303(d) listing begins at the confluence of the North Fork and the mainstem of the Gunnison River.

#### ***4.6.2 Reasonably Foreseeable Environmental Trends***

Past and present actions causing ground disturbance include several transmission lines and existing roads and their associated maintenance. Additional uses include livestock grazing and developments, and recreational uses. All of these uses are expected to continue on BLM managed land within the analysis area.

#### ***4.6.3 Other Planned Actions in the Area***

The BLM is likely to conduct treatments in the Jumbo Mountain area to manage various vegetation communities for a variety of objectives including removing hazardous fuels, improving wildlife habitat, and infrastructure protection.

#### ***4.6.4 Effects of Alternative A – No Action***

There are currently 31.8 miles of roads and trails open to OHV use. Only 2.25 miles of the routes are roads open to full size vehicles and were created to install and maintain the Western Area Power Administration (WAPA) power line road crossing the Jumbo Mountain SRMA. Due to the road width, number of drainage crossings and average grade of the road, maintenance of the road is difficult.

In July of 2018 a monsoon event dropped approximately 1.75 inches of rain in 30 minutes across an unnamed drainage and caused substantial flooding downstream of the project area. Large amounts of sediment were contributed by the WAPA powerline road and flushed downstream. The drainage basin area is approximately



0.6 square miles and crosses the Stewart Ditch before reaching Minnesota Creek as shown in **Figure 3** and Photos 5 – 8 below.

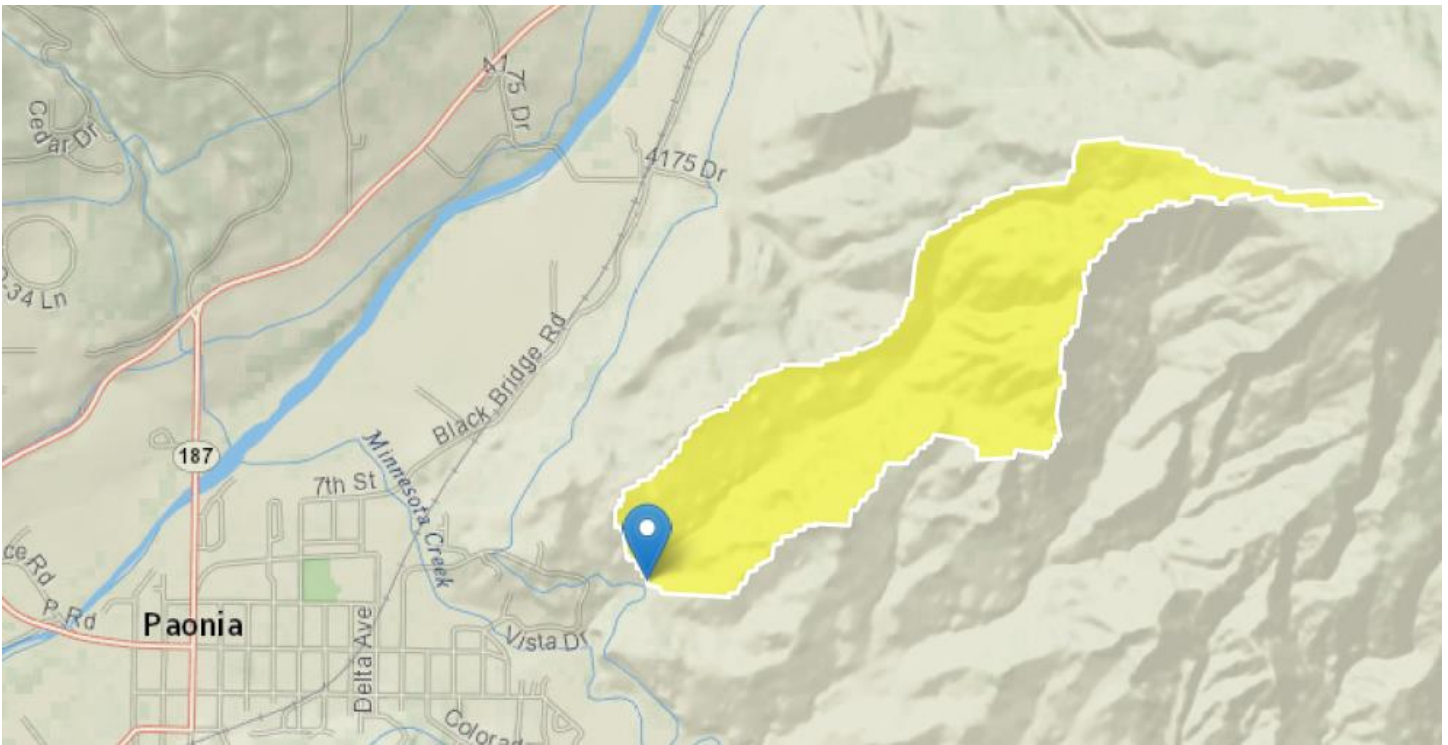


Figure 3 StreamStats basin delineation accessed at <https://streamstats.usgs.gov/> 1/10/2023.



Photo 5 and Photo 6: Flooding at confluence of unnamed drainage and Stewart Ditch and sediment deposition above the ditch plugging the culvert. Photo Credit Elaine Brett.



Photo 7 and Photo 8: Flooding at confluence of unnamed drainage and Stewart Ditch and sediment deposition above the ditch plugging the culvert. Photo Credit Elaine Brett.

The mean basin slope of the drainage shown in Figure 3 where approximately half of the trails are located is calculated by StreamStats at 24 percent, with a maximum elevation of 7,470 feet and minimum elevation of 6,162 feet. This extremely steep and short basin results in very large potential flood events with an estimated 100-year peak flow of 596 cubic feet per second. Photos in **Section 4.1.1 Affected Environment** depict the WAPA road crossing at the unnamed drainage where substantial sediment is eroded during storm events as flood flows are routed through a culvert before plunging into a 25-foot-deep arroyo. In the most recent flood event, many tons of sediment generated in this short, steep basin where the existing roads and trails are located, were deposited above the Stewart Mesa Ditch crossing. The BLM is working with WAPA to redesign the road crossing and reduce the sediment generated at this location.

#### ***4.6.5 Effects of Alternative B – Maximum Resource Protection***

The effects of the existing 2.25 miles of power line roads would be similar to those described in the No Action Alternative. The maximum resource protection alternative would designate approximately 14.7 miles of existing trails and new or re-routed trails, and close and reclaim approximately 17.1 miles of trails within the planning area.

The WEPP modeling conducted in 4.1.5 Effects of Alternative B – Maximum Resource Protection estimates the mean annual soil loss expected from the trail network would produce 1.5 tons of sediment available to be mobilized during storm events. Most of the sediment as well as selenium and salinity present in the soil formation would be deposited within the nearest stream channel to the trail segments. However, during larger rain events some portion of this material could be transported downstream potentially as far as the Gunnison River. This would result in direct effects of impairing water quality, sedimentation of stream channels, and alterations to stream morphology. Indirect effects could include further selenium and sediment impairment to downstream waterbodies in the planning area. Any contributions reaching rivers would be short in duration based on the nature of flashy monsoon rain events and would have 14.1 tons less sediment available for delivery to the stream channel as compared to the no action alternative.

#### ***4.6.6 Effects of Alternative C – Maximum Access***

The effects of the existing 2.25 miles of power line roads would be similar to those described in the no action alternative. The maximum access alternative would designate approximately 27.5 miles of existing trails and new or re-routed trails, and close and reclaim approximately 4.3 miles of trails within the Jumbo Mountain SRM.

The WEPP modeling conducted in section 4.1.6 estimates the mean annual soil loss expected from the trail network would produce 3.7 tons of sediment available to be mobilized during storm events. Most of the sediment as well as selenium and salinity present in the soil formation would be deposited within the nearest stream channel to the trail segments. However, during larger rain events some portion of this material could be transported downstream potentially as far as the Gunnison River. This would result in direct effects of impairing water quality, sedimentation of stream channels, and alterations to stream morphology. Indirect effects could include further selenium and sediment impairment to downstream waterbodies in the planning area. Any contributions reaching rivers would be short in duration based on the nature of flashy monsoon rain events and would have 11.9 tons less sediment available for delivery to the stream channel as compared to the no action alternative.

#### ***4.6.7 Effects of Alternative D – Proposed Action***

Selenium is present in highly soluble sodium salts and gypsum on unirrigated Mancos Shale rangelands primarily in the 8–15 inches precipitation zone. The travel management area is slightly higher than the zone of highest selenium concentrations and likely has had more salt/selenium flushed from the soils due to the higher amount of precipitation. Laboratory experiments with soils collected in these areas indicate selenium is released most rapidly when water is applied to previously non-irrigated soils (Mast et. al., 2014). Since rangelands are not irrigated, the selenium present in soils is only mobilized during large rain events when overland flow mobilizes soils. These events deliver large volumes of water, but for short periods of time. The total load of selenium contributed to downstream water bodies during these events is actually small compared to the ongoing contributions from other sources. A recent study conducted in the Smith Fork drainage basin with Mancos Shale derived soils and little ground disturbance other than grazing, found three natural sub-basins had little to no contributing selenium loads (Richards et al., 2014).

Further evidence that selenium from rangelands is a minimal source contributing to the Gunnison River is the trend of selenium loads in Gunnison River. Long term selenium trends in the Gunnison River have dropped 28.6 percent since 1986 (Mayo and Leib, 2012). Much work has been done to improve irrigation practices by lining canals and ditches in the contributing areas of the Gunnison and Uncompahgre basins. Whether the decline in trend is due to the agricultural improvements or due to the reduction of selenium available to be flushed from irrigated fields over time is unknown. During the period of declining trend, rangeland health conditions haven't changed. This likely indicates that the selenium load contributed from rangeland has little influence on the selenium loads in downstream receiving water bodies including the Gunnison River.

While the likelihood of large events delivering sediment, selenium and salt is small, the recent event in 2018 demonstrates the potential still exists. During these events the direct effects of mobilizing sediment and other constituents including salt and selenium to stream channels downstream from the Jumbo Mountain area could include impairing water quality, sedimentation of stream channels, and alterations to stream morphology. Indirect effects could include further selenium and sediment impairment to downstream waterbodies in the planning area.

The WEPP modeling conducted in section 4.1.7 estimates the mean annual soil loss expected from the trail network would produce 4.5 tons of sediment available to be mobilized during storm events. Most of the sediment as well as selenium and salinity present in the soil formation would be deposited within the nearest stream channel to the trail segments. However, during larger rain events some portion of this material could be transported downstream potentially as far as the Gunnison River. Any contributions reaching rivers would be short in duration based on the nature of flashy monsoon rain events and would have less sediment available for delivery to the stream channel as compared to the no action alternative.

## **4.7 ISSUE STATEMENT #7**

How would the designation and modification of the existing trail system affect transportation in the Jumbo Mountain SRMA?

### ***4.7.1 Affected Environment***

The existing route network consists of 31.8 miles of “limited to existing” routes within the planning area. The 2020 UFO RMP designated as “limited” (to existing or designated routes) allowing the BLM to manage the existing route network prior to making individual route designations during the comprehensive travel management planning process. The existing trail system is open to motorized use, however the primary public access is provided through a private easement that prohibits motorized use. The trail system has been historically utilized by non-motorized recreation, and the SRMA desired future conditions per the 2020 UFO RMP are for a non-motorized trail network. The existing seasonal motorized and mechanized big game closure of RMZ 2 for five months (42 percent of the year) results in 62 percent of the routes being closed to motorized and mechanized use, and zero percent of the routes closed to pedestrians and equestrians. Generally, most hikers in Jumbo Mountain SRMA primarily use RMZ 1, while bikers use both RMZ 1 and 2 extensively. New routes can be added as needed to accommodate use and provide for recreation opportunities. The route designations proposed in this EA are primarily intended to modify the route system to better meet the recreation management objectives of the SRMA, while reducing impacts to sensitive natural and cultural resources and promoting a more sustainable trail system.

### ***4.7.2 Reasonably Foreseeable Environmental Trends***

Based on local and regional population growth, and ongoing BLM visitation monitoring, the BLM anticipates continued increases in visitor use within the Jumbo Mountain SRMA. Trail based recreation increased in the UFO by 1.75 percent over the last year and expect that to continue to increase by 1-3 percent year over year. Continued growth in the popularity of e-bikes will likely result in the need for the BLM to proactively plan for, and manage, opportunities for e-bike use.

### ***4.7.3 Other Planned Actions in the Area***

The BLM plans to conduct the Travel Management Planning in the North Fork Travel Management Area within the next 5 years.

### ***4.7.4 Effects of Alternative A – No Action***

Impacts to the transportation system under Alternative A are shown in **Table 27**, below.



Table 27: Route Designations in Alternative A

Use Type	Seasonal Limitation- Big Game	Seasonal Limitation- Raptor	New Construction	Miles Open Year- Round	Miles Open July 15 <sup>th</sup> - December 1 <sup>st</sup>	Percent Trails Open Year- Round
Motorized/ Mechanized	19.8	0	0	12.2	31.8	38%
Pedestrian/ Equestrian	0	0	0	31.8	31.8	100%

Under Alternative A, none of the route designations would be changed. Year-round access would remain on 12.2 miles of the current route system. The current 31.8-mile existing route system would contain up to 8 percent fewer miles than the 34.4-mile fully built-out designated route system proposed in Alternative D. The existing seasonal travel restriction for motorized and mechanized use for protection of wintering big game in RMZ 2 is five months (42 percent of the year).

#### ***4.7.5 Effects of Alternative B – Maximum Resource Protection***

Impacts to the transportation system under Alternative B are shown in Table 28, below.

Table 28: Route Designations in Alternative B

Use Type	Seasonal Limitation- Big Game	Seasonal Limitation- Raptor	New Construction	Miles Open Year- Round	Miles Open July 15 <sup>th</sup> - December 1 <sup>st</sup>	Percent Trails Open Year- Round
Mechanized*	9.8	0	0	4.9	14.7	33%
Pedestrian/ Equestrian	9.8	0	0	4.9	14.7	33%

\* Alternative B closes all routes to motorized use, except for administrative use.

Alternative B would change the travel designations leaving 14.7 miles open to the public from July to December, and 4.9 miles year-round. This would close access to RMZ 2 for all uses from December 1 until April 15 annually. This represents a loss of access for five months (42 percent of the year) on 67 percent of the miles open in this alternative for all uses, which is a five percent decrease in miles open to motorized and mechanized use and a 67 percent decrease for pedestrian and equestrian access as compared to Alternative A.

#### ***4.7.6 Effects of Alternative C – Maximum Access***

Impacts to the transportation system under Alternative C are shown in Table 29, below.

Table 29: Route Designations in Alternative C

Use Type	Seasonal Limitation- Big Game	Seasonal Limitation- Raptor	New Construction	Miles Open Year- Round	Miles Open July 15 <sup>th</sup> - December 1 <sup>st</sup>	Percent Trails Open Year Round
Motorized/ Mechanized	18.3	2.4	0	6.8	27.5	25%
Pedestrian/ Equestrian	18.3	2.4	0	25.1	27.5	91%

Alternative C would change the travel designations leaving 27.5 miles open to mechanized, motorized, pedestrian, and equestrian use from July through December, and 25.1 miles year-round for pedestrian and equestrian use. The overlapping seasonal limitations represents a loss of access for 7 months (58 percent of the year) which represents a decrease in excess of 16 percent as compared to Alternative A. The raptor closure impacts 9 percent of all use in this alternative. The combination of the big game and raptor closures reduced access by 14 percent compared to Alternative A.

#### 4.7.7 Effects of Alternative D – Proposed Action

Impacts to the transportation system under Alternative C are shown in Table 30, below.

Table 30: Route Designations in Alternative D

Use Type	Seasonal Limitation- Big Game	Seasonal Limitation- Raptor	New Construction	Miles Open Year- Round	Miles Open July 15 <sup>th</sup> - December 1 <sup>st</sup>	Percent Trails Open Year Round
Mechanized*	13.9	2.4	10	8.1- 18.1**	34.4	24%- 53%
Pedestrian/ Equestrian	0	2.4	10	22-32*	34.4	64%- 93%

\* Alternative D closes all routes to motorized use, except for administrative use.

\*\* Miles open year-round depends on where the 10 additional miles of new construction are built. If they are in RMZ 2, they will be seasonally closed to protect big game. If they are in RMZ 1, there will be no seasonal travel limitation.

Alternative D would change the travel designations leaving up to 34.4 miles open to mechanized, motorized, pedestrian, and equestrian use from July through December, and up to 32 miles year-round for pedestrian and equestrian use. The overlapping seasonal limitations represents a loss of access for 7 months (58 percent of the year) which represents a 16 percent decrease in access as compared to Alternative A. The raptor limitation impacts 7 percent of all use in this alternative. The combination of the big game and raptor closures reduced access by up to 14 percent compared to Alternative A but could result in a positive increase in miles open year-round based on where new construction occurs.

## 4.8 ISSUE STATEMENT #8

How would the designation and modification of the existing trail system affect recreation setting characteristics and recreation opportunities (activities, experiences, outcomes) in the Jumbo Mountain SRMA?

#### **4.8.1 Affected Environment**

Outdoor recreation on public lands within the North Fork Valley is highly valued as a quality-of life amenity for residents and as a destination for regional tourists. Both individuals and communities benefit from public-lands recreation opportunities. Individual benefits include improved physical and mental health and stronger ties with family and friends. Community benefits include a more diversified economy and improving the attractiveness of the North Fork Valley as a place to live, work, recreate, and retire. The Jumbo Mountain SRMA is very popular with the local community in Paonia, Colorado. Many residents enjoy a backyard to backcountry experience with the trail system being immediately adjacent to the town and nearby Apple Valley Park. Jumbo Mountain received 27,737 visitors in fiscal year 2022, making it one of the most popular trail-based recreation sites in the UFO. Trail based recreation accounts for 37 percent of all visits to public lands, and 55 percent of visits to developed recreation sites.

The existing routes within the planning area includes approximately 32 miles of primarily singletrack trails RMZ 2 is seasonally closed to motorized and mechanized use, as determined in the UFO RMP. Within the larger UFO (including Gunnison Gorge NCA and Dominguez-Escalante NCA), there are a total of 3,236 miles of roads and trails open for recreational use, including 75 miles of singletrack mountain bike trails (most also open to foot and/or equestrian use).

Early public scoping comments for this proposal, as well as commonly recognized recreation trends, indicate a high level of interest in the management of e-bikes on public lands. According to a 2021 report, the worldwide e-bike market (all classes and bicycle types) was worth about \$41 billion in 2020 and is expected to expand nearly threefold over a decade, with a compound annual growth rate of 11.6 percent. The eMTB (electric mountain bike) category is expected to be the fastest growing segment during the forecast period. The report also noted that when divided by class, Class 1 e-bikes are expected to be the largest market segment, in part because of legal limitations of Class 2 and 3 e-bikes on roads and trails (Vision Research Reports 2021).

Consequently, the BLM is adapting management strategies to account for this increasingly popular activity. The BLM UFO is following agencywide guidance by analyzing the potential authorization of e-bike use in the planning area. The BLM uses an outcomes-focused recreation management strategy, which identifies and manages landscape and recreation settings to provide specific recreation opportunities and beneficial outcomes.

Recreation opportunities are defined as the ability to participate in recreation activities that facilitate experiences and benefits within a specific geographic area. Visitors to BLM-administered public lands seek a diverse range of setting-dependent outdoor recreation opportunities. They choose to recreate in different areas based on the qualities and conditions (i.e., recreation setting characteristics) of the area and because they desire to have distinctive recreation outcomes (i.e., experiences and benefits) (BLM 2014).

**Recreation Outcomes:** The BLM establishes outcomes-focused recreation objectives that address recreation outcomes (i.e., recreation activities, experiences, and benefits) for lands designated as SRMAs. Recreation outcomes consist of experiences and benefits and are defined in the 2020 UFO Approved RMP. Desired outcomes for the Jumbo Mountain SRMA include:

- Experiencing skill development (i.e., mountain biking, running, hiking) and physical exercise while learning about the site.
- Easy and frequent access to natural landscapes and recreational activities close to the community.
- Reducing mental tension, stress relief and increasing quality of life.

Recreation Setting Characteristics: The visitors’ achievement of recreational experiences and benefits is highly dependent on the recreation setting characteristics (RSCs) that support those outcomes. RSCs further describe the physical, social, and operational components of the recreation setting. Physical qualities of the landscape are defined by remoteness, naturalness, and facilities. Social qualities associated with use are defined by contacts with other groups, group size, and evidence of use. Operational conditions to manage recreation use are defined by type of access, visitor services and management controls (BLM 2014).

In the 2020 UFO RMP, the BLM identified the following physical, social, and operational RSCs for Jumbo Mountain SRMA. Table 31 summarizes the current and desired future RSCs.

Table 31: Jumbo Mountain SRMA Recreation Setting Characteristics

Characteristic	Current	Desired Future
<b>Physical</b>	<ul style="list-style-type: none"> <li>- Easily accessible by passenger vehicles</li> <li>- Landscape partially modified</li> <li>- Limited structures (ie, wooden bridges and trails)</li> </ul>	<ul style="list-style-type: none"> <li>- Easily accessible by passenger vehicles</li> <li>- Landscape considerably modified</li> <li>- Rustic facilities such as trailheads and interpretive information</li> </ul>
<b>Social</b>	<ul style="list-style-type: none"> <li>- Encounter 15 or fewer visitors on trails</li> <li>- Group sizes of 4-6</li> <li>- Trails compacted and sounds from people are occasionally heard</li> </ul>	<ul style="list-style-type: none"> <li>- Encounter 30 or fewer visitors on trails</li> <li>- Group sizes of 13-25</li> <li>- Trails compacted and sounds from people are regularly heard</li> </ul>
<b>Operational</b>	<ul style="list-style-type: none"> <li>- Multi-use trails open to some motorized use</li> <li>- Staff rarely present and no maps or brochures</li> <li>- No information on rules and limitations posted</li> </ul>	<ul style="list-style-type: none"> <li>- Mechanized trail use</li> <li>- Staff periodically present and informational materials available</li> <li>- Rules and limitations posted</li> </ul>

For this analysis, RSCs serve as a framework to describe the existing recreation setting and the changes in the recreation settings and recreation opportunities created by different alternatives or actions.

#### ***4.8.2 Reasonably Foreseeable Environmental Trends***

Based on local and regional population growth, and ongoing BLM visitation monitoring, the BLM anticipates continued increases in visitor use within the Jumbo Mountain SRMA, and throughout the UFO. Continued growth in the popularity of e-bikes will likely result in the need for the BLM to plan more actively and manage opportunities for e-bike use.

#### ***4.8.3 Other Planned Actions in the Area***

Within Jumbo Mountain SRMA, the BLM anticipates increased SRP requests for both commercial and competitive activities. The BLM plans to use the SRP-generated fee revenue to fund ongoing trail system maintenance and construction. The BLM anticipates collaborating with the Paonia Parks Committee on improving connectivity from the city owned Apple Valley Park to the BLM Jumbo Mountain trail system, in addition to adding signage and minimal trailhead infrastructure (kiosk and bike tools) with the first half mile of the trail system.



#### ***4.8.4 Effects of Alternative A – No Action***

Under Alternative A, the BLM would not make changes to Jumbo Mountain SRMA to facilitate fully realizing the Desired Future RSCs. It would make it more difficult for the BLM to continue to provide the targeted recreation opportunities necessary to meet the recreation management objectives.

##### Activities, Experiences, and Benefits

Under Alternative A, the primary activities in the SRMA would remain mountain biking, hiking, horseback riding, and running. A significant amount of pre-scoping public comments expressed support for improvement of the existing trail system through sustainable reroutes and expansion.

There would be no increase in the number of trail miles open to recreation activities nor more sustainable purpose built reroutes of existing trails. The BLM would not expand opportunities for visitors to experience the beneficial outcomes described in the analysis of the proposed action. This alternative would best meet the stated objective of some commentors to minimize any further development of recreation opportunities.

Mountain bike, equestrian, and pedestrian use would continue to be allowed on trails within the raptor limitation area from December 15 to July 15, resulting in no loss in recreational visits.

##### Physical RSCs

The mileage and density of trails would remain the same which would partially preserve the perceived remoteness and naturalness of the area. However, expected increases in visitation and crowding, as well as continued use of existing unsustainable trails, would likely result in degradation of perceived remoteness and naturalness that is equal to or greater than what would be expected under the alternatives C and D.

##### Social RSCs

The BLM expects that visitation to the Jumbo Mountain SRMA would continue to increase, at least over the next few years. Based on BLM visitor use monitoring, visitation to the SRMA has increased or stayed constant since 2017. The BLM anticipates that the trend of increasing visitor use would continue to increase crowding on the existing trail system, increasing the likelihood that visitors may encounter more than 30 other groups, thus exceeding the desired future social RSCs target. Continuing increases in use could increase the potential for negative social interactions (conflict) since there would be more contacts with other groups.

##### Operational RSCs

The BLM would not construct any new trails, so access would be limited to the existing trail system and no new recreation opportunities would be added to the SRMA. The BLM would not add any additional informational or wayfinding signage nor increase patrols to the SRMA. Poorly located unsustainable trail alignments would not be rerouted and would require more long-term maintenance than the rerouted alignments proposed in the other three alternatives.

#### ***4.8.5 Effects of Alternative B – Maximum Resource Protection***

Under Alternative B, the BLM would seek to limit the expansion of the trail network within the planning area and reduce the footprint of the existing trail system which would make it more challenging to achieve the desired RSCs. It would make it more difficult for the BLM to continue to provide the targeted recreation opportunities necessary to meet the recreation management objectives for the growth anticipated in the community.

### Activities, Experiences, and Benefits

The primary activities in the SRMA would remain mountain biking, hiking, horseback riding, and running. A significant amount of pre-scoping public comments expressed support for improvement of the existing trail system through sustainable reroutes and expansion, which would not be approved in this alternative.

There would be a 54 percent decrease in the number of trail miles open to recreation activities in the planning area. This alternative would best meet the stated objective of some commentors to minimize any further development of recreation opportunities, and to place a greater emphasis on the protection of big game and plants.

Mountain bike, equestrian, and pedestrian use would not be allowed on trails within RMZ2. The additional limitation to pedestrian and equestrian use would result in a decrease of recreational visits by 51 percent for both mechanized, pedestrian and equestrian uses.

### Physical RSCs

The mileage and density of trails would be dramatically reduced which would preserve the perceived remoteness and naturalness of the area. However, expected increases in visitation and crowding, as well as continued use of existing non-purpose-built trails, would likely result in degradation of perceived remoteness and naturalness that is greater than what would be expected under the other three alternatives.

### Social RSCs

The BLM expects that visitation to the Jumbo Mountain SRMA would continue to increase, at least over the next few years. Based on BLM visitor use monitoring, visitation to the SRMA has increased or held constant since 2017. The BLM anticipates that the trend of increasing visitor use would continue to increase crowding on the existing trail system, increasing the likelihood that visitors may encounter more than 30 other groups, thus exceeding the desired future social RSCs target. Continuing increases in use could combined with a decrease in trail miles would increase the potential for negative social interactions (conflict) since there would be more contacts with other groups.

### Operational RSCs

The BLM would not construct any new trails and would close many existing trails so access would be reduced, and no new recreation opportunities would be added to the SRMA. The BLM would add additional informational or wayfinding signage and increase patrols to the SRMA. Because the existing use would be concentrated on a smaller network of trails, the system would require more long-term maintenance and there would be an increased likelihood of unauthorized trails being built within the SRMA, due to the increased demand for trails shown in public scoping.

### ***4.8.6 Effects of Alternative C – Maximum Access***

Under Alternative C, the BLM would seek to close a very limited number of miles of the existing trail network within the planning area, maintain public OHV access to the powerline road, and conduct reroutes. Achieving the desired RSCs would be easier than in the A and B alternatives, but by still allowing some motorized access, it would not meet the desired future outcome for the operational RSC. It would make it more difficult for the BLM to continue to provide the targeted recreation opportunities necessary to meet the recreation management objectives for the types of trail use supported in pre-scoping. Because the existing easement that allows access to the primary trailhead does not allow motor-vehicles it could promote unauthorized public motorized use in RMZ 1 to access the powerline road.

#### Activities, Experiences, and Benefits

The primary activities in the SRMA would remain mountain biking, hiking, horseback riding, and running, however public motorized use would be maintained on the Powerline Road. A significant amount of pre-scoping public comments expressed support for improvement of the existing trail system through sustainable reroutes, which would be approved in this alternative.

There would increase in the number of trail miles open to recreation activities and would close 14% of existing trails in the planning area. This alternative would best meet the stated objective of some commentors to eliminate a few trails that receive very little use, while keeping the vast majority open and left “as is”.

The addition of the raptor limitation through July 15, would result in a decrease of recreational visits by 28 percent for both mechanized, pedestrian and equestrian uses.

#### Physical RSCs

The mileage and density of trails in the SRMA would remain similar to existing with reroutes which would meet the objective of a more modified landscape that has more purpose-built trails. This more modified and addition of rustic facilities would be better equipped to manage the expected increases in visitation, and which would in turn maintain a degree of perceived remoteness and naturalness.

#### Social RSCs

The BLM expects that visitation to the Jumbo Mountain SRMA would continue to increase, at least over the next few years. With the addition of new trails and purpose built reroutes, the BLM anticipates that the trend of increasing visitor use would be better dispersed throughout more miles which would reduce the likelihood that visitors may encounter more than 30 other groups, thus exceeding the desired future social RSCs target.

#### Operational RSCs

The BLM would close a few low-use existing trails so recreation opportunities and the quality of those opportunities would be similar to current conditions. The BLM would add additional informational or wayfinding signage and increase patrols to the SRMA. Because the existing use would be dispersed on a larger network of purpose-built sustainable trails, the system would require less long-term maintenance. However, it would not meet the demand for new trails and improved experiences.

#### ***4.8.7 Effects of Alternative D – Proposed Action***

Under Alternative D, the BLM would seek to close a limited number of miles of the existing trail network within the planning area and conduct reroutes and build additional mileage. Under Alternative D achieving the desired RSCs would be the easiest of all alternatives. It would align with the targeted recreation opportunities necessary to meet the recreation management objectives for the types of trail use supported in pre-scoping.

#### Activities, Experiences, and Benefits

Under Alternative D, the primary activities in the SRMA would be mountain biking, e-biking, hiking, horseback riding, and running. One of the targeted benefits of Jumbo Mountain SRMA is to increase desirability of the area as a place to retire. E-bikers tend to be on average 25 years older than traditional bikers (Perry and Casey, 2020), so allowing e-bikes would increase opportunities of retirement age riders to enjoy the trail system. A significant amount of pre-scoping public comments expressed support for improvement of the existing trail system through sustainable reroutes and expansion, which would be approved in this alternative.

There would increase in the number of trail miles open to recreation activities and would close 24% of existing trails in the planning area. This alternative would best meet the stated objective of some commentors to find a balance of open quality routes, while eliminating trails that receive very little use or are safety hazards.

The reroutes proposed allow for more sustainable alignments outside of sensitive resource areas, that will provide more miles of routes with purpose-built features than the existing trails. The addition of the raptor limitation through July 15, would result in a decrease of recreational visits by 28% for mechanized, pedestrian and equestrian uses.

#### Physical RSCs

The mileage and density of trails in the SRMA would be increased through reroutes and future construction which would meet the objective of a more modified landscape that has more purpose-built trails. This more modified and addition of rustic facilities would be better equipped to manage the expected increases in visitation and would in turn maintain a degree of perceived remoteness and naturalness.

#### Social RSCs

The BLM expects that visitation to the Jumbo Mountain SRMA would continue to increase, at least over the next few years. With the addition of new trails and purpose built reroutes, the BLM anticipates that the trend of increasing visitor use would be better dispersed throughout more miles which would reduce the likelihood that visitors may encounter more than 30 other groups, thus exceeding the desired future social RSCs target. The additional purpose-built mileage would reduce conflict by spreading visitors throughout the system and encourage more directional travel minimizing safety concerns raised in pre-scoping.

#### Operational RSCs

The BLM would construct new trails and would close a few low use existing trails so recreation opportunities and the quality of those opportunities would be increased, and new recreation opportunities would be added to the SRMA. It would also limit motorized use to administrative only, thus meeting the desired future of mechanized trail system. The BLM would add additional informational or wayfinding signage and increase patrols to the SRMA. Because the existing use would be dispersed on a larger network of purpose-built sustainable trails, after initial construction the system would require less long-term maintenance.

## 5 – SUPPORTING INFORMATION

### 5.2 Interdisciplinary Review

Table 32: Core Interdisciplinary Team

Name	Title	Area of Responsibility	Date Signed
Jedd Sondergard	Hydrologist	Soil/Water	1/10/2023
Ken Holsinger	Ecologist	Upland Vegetation/Special Status Plants	1/11/2023
Angela Yemma	Rangeland Management Specialist	Noxious Weeds/Invasive Species	12/21/2022

Name	Title	Area of Responsibility	Date Signed
Caroline Kilbane	Outdoor Recreation Planner	Recreation and Transportation	1/11/2023
Emily Latta	Wildlife Biologist	Wildlife, Special Status Animals	1/26/2023
Angela LoSasso	Planning and Environmental Coordinator	NEPA and FLPMA	1/31/2023
S. Edward Franz	Gunnison Gorge NCA Manager	Recreation Supervisor	1/31/2023
Bert Potwin	Assistant Manager Renewable Resources	Renewable Resources Supervisor	2/2/2023
Suzanne Copping	Uncompahgre Field Manager	Deciding Official	2/3/2023

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## **7 – APPENDICES**

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Appendix A: Maps

Appendix B: Transportation and Access Plan

Appendix C: Plan Conformance Review

Appendix D: Issue Identification Worksheet

Appendix E: Seasonal Closure Sign

Appendix F: UFO-GGNCA SRP Special Stipulations

Appendix G: Jumbo Mountain System-wide Trail Management Objectives